US NAVAL CONSTRUCTION BATTALION (Sea Bee) Fighting Guide.

(Note, the total guide is 414 pages, but over 300 of which cover Survival, NBC/WMD, and First Aide….these subjects are covered elsewhere adequately on this disk…..this "condensed" edition only includes the actual sections on weapons handling and tactics covered by the original----the mad Cossack, editor)

CHAPTER 3

SERVICE RIFLE AND PISTOL AND MARKSMANSHIP

As a Seabee, you make important contributions to the Naval Construction Force (NCF) activities. You are important as an individual as well as a Seabee. The NCF is made up of individuals like you, working together as a team. The ultimate goal of the NCF is success in its construction projects as well as the defense of these projects when needed. Your job is to help achieve that success and to help provide that defense. You may have to fight alone; but most of the time, you will work and help defend a site with other Seabees under a unit or team leader. You can prepare yourself for defense by acquiring the knowledge and skills needed for using both individual and crew-served weapons. You, as a Seabee, are likely to be required to use them; therefore, they are discussed in the next two chapters.

Basic and introductory information about Seabee weapons is given so you can load, fire, field strip, and clean the service rifle, service pistol, light machine gun, light antitank weapon, grenade launcher, and mortar. This chapter covers functioning, mechanical training, assembly and disassembly, loading and firing, ammunition, safety precautions, and marksmanship techniques for both the M16A1 and M16A2 service rifles and the .45 caliber pistol.

THE M16A1 AND M16A2 RIFLES

The M16A1 and the M16A2 service rifles (figs. 3-1 and 3-2) are 5.56-mm, magazine-fed, gas-operated shoulder weapons. Their design provides for either semiautomatic or automatic fire by means of a selector lever.

The M16A1 is equipped with a flash suppressor, but the M16A2 has a flash compensator to hold the muzzle down during rapid and automatic firing.

The barrel of the M16A1 is covered by two aluminum-lined fiber glass handguards (fig. 3-3). These handguards have notches to permit air to circulate around the barrel and to serve further as protection for the gas tube. On the Ml6A2, the handguards are round and ridged (fig. 3-2), making them stronger and easier to grip. The handguards are interchangeable; the handguard retaining ring is also specially contoured and easier to grip.

A "clothespin" biped is issued to, and used by, the automatic rifleman. The biped attaches to the barrel directly beneath the front sling swivel (fig. 3-4). A forward assist assembly (fig. 3-1), located on the right rear of the upper receiver, permits closing of the bolt when the force of the action spring does not.

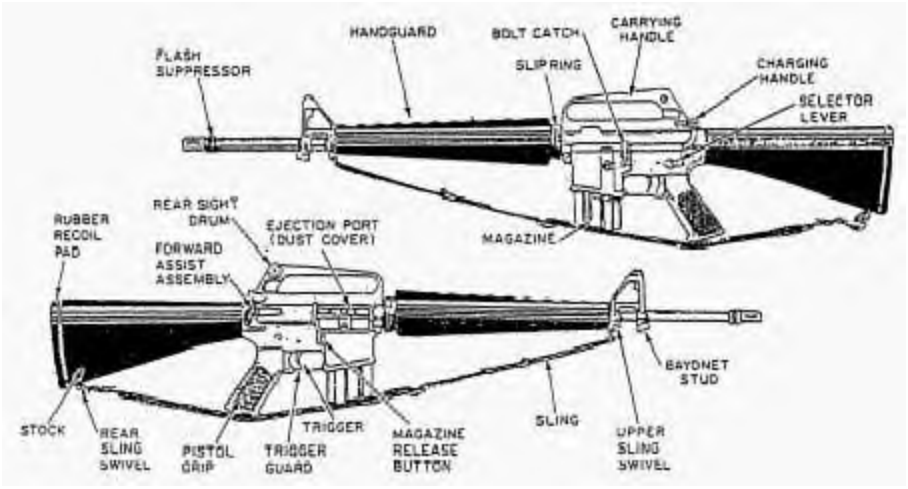


Figure 3-1.-M16A1 service rifle, 5.56 mm, left and right side views.

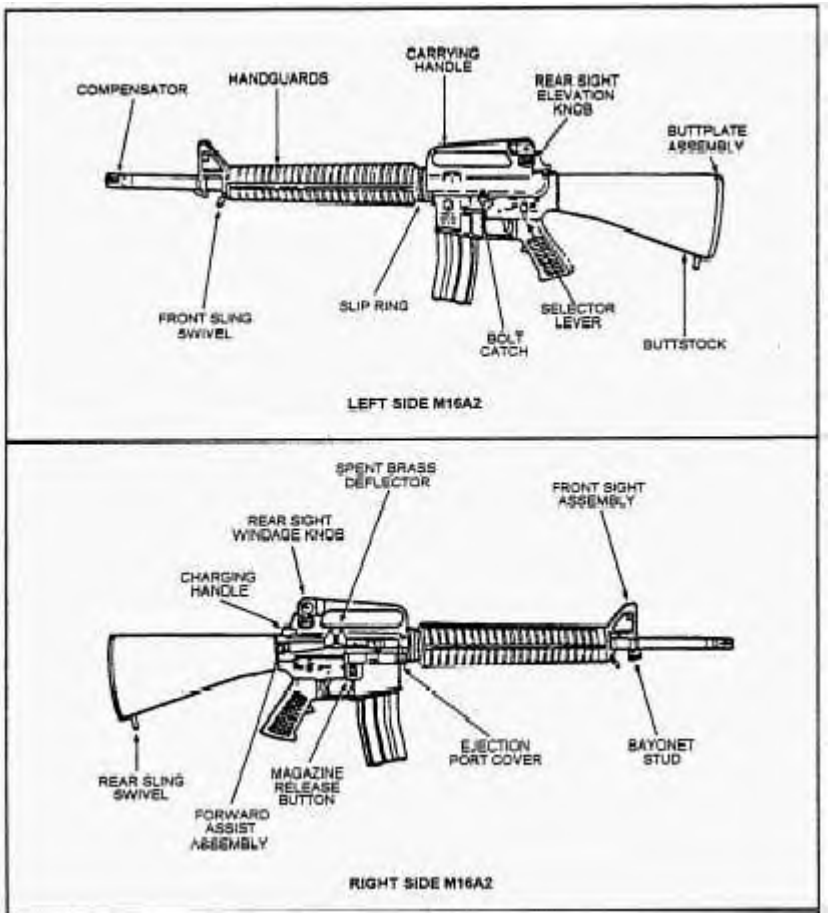


Figure 3-2.-M16A2 service rifle, 5.56 mm.

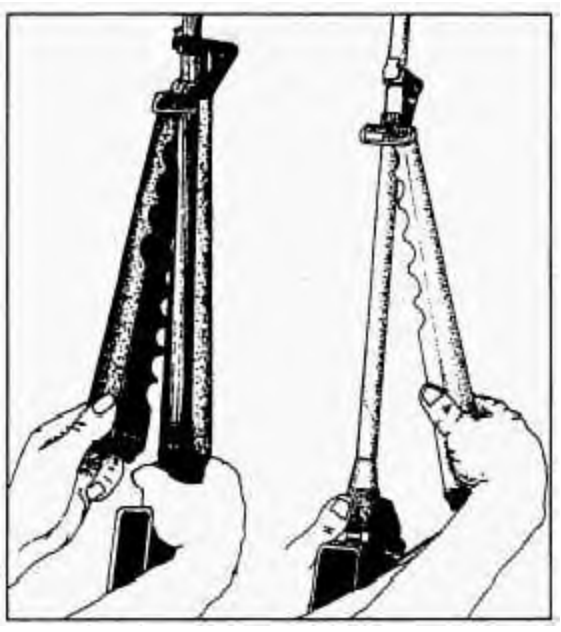


Figure 3-3.-Fiber glass handguard.

The trigger guard adapts easily for use in winter operations. A spring-loaded retaining pin is depressed so the trigger guard swings down along the pistol grip, allowing ready access to the trigger when cold weather mittens are being worn.

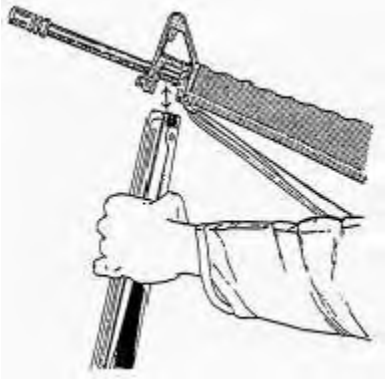


Figure 3-4.-Attaching "clothespin" bipod to M16 rifle.

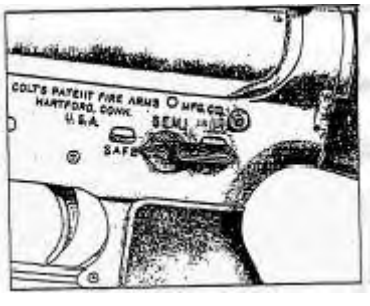


Figure 3-5.-Selector lever pointing to SAFE.

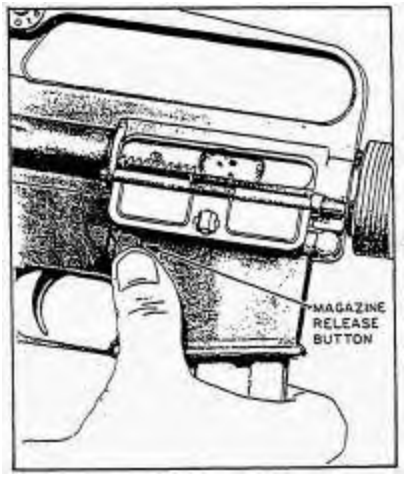


Figure 3-6.-Removing the magazine.

An ejection port cover prevents sand and dirt from getting into the ejection port. It should be closed during periods when firing is NOT anticipated and will open by either forward or rearward movement of the bolt carrier. The M16A2 is an improvement over the M16A1 in the following ways:

- The barrel is 3 to 4 ounces heavier. The new barrel spins the bullet one turn in 7 inches, compared to one turn in 12 inches by the M16A1.
- The Ml6A2 has a maximum effective range of 800 meters, compared to 500 meters for the M16A1. l The front sight post is now square instead of round, making it easier to see.
- The new model no longer fires full y automatic; it fires three rounds only per burst in the automatic setting.
- Left-handed shooters have some protection from injury with a built-in brass deflector located at the rear of the ejection port. The stock of the rifle is 5/8 inch longer, making it more comfortable and easier to handle. Unless specifically stated otherwise, the following discussion of the M16 rifle applies equally to both the M16A1 and M16A2.

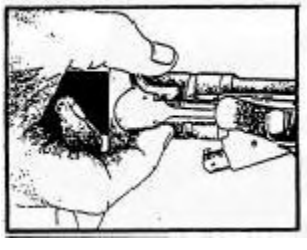


Figure 3-7.-Pulling the charging handle rearward.

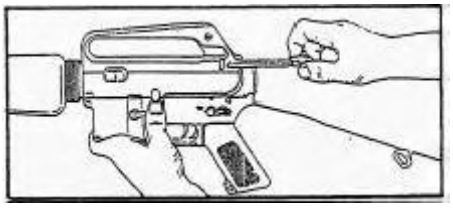


Figure 3-8.-Locking the bolt open.

For economy in communication, the following maintenance procedures (clearing, field-stripping, assembling, etc.) for the M16 service rifles are written for the right-handed Seabee. The left-handed Seabee can reverse hand directions for these procedures if it improves their efficiency.

CLEARING THE RIFLE

The first precaution to take in handling any weapon is to make it safe by clearing it. To clear the Ml 6 rifle, place the butt against the right thigh and proceed as follows:

1. Attempt to point the selector lever toward SAFE, the position shown in figure 3-5. If the weapon is not cocked, the selector lever cannot be pointed toward SAFE. If that is the case, do not cock the weapon at this time; instead, go on to the next step in clearing.
2. Remove the magazine, as shown in figure 3-6. Grasp it with the right hand (fingers curled around the front of the magazine, thumb placed on the magazine catch button). Apply pressure on the magazine catch button with the thumb, and pull the magazine straight out of the weapon.
3. Lock the bolt open, as shown in figures 3-7 and 3-8. Grasp the charging handle with the thumb and forefinger of the right hand, depress the charging handle, latch it with the right thumb, and pull to the rear (fig. 3-7). When the bolt is fully rearward, press the bottom of the bolt catch with the thumb or forefinger of the left hand (fig. 3-8). Allow the bolt to move slowly forward until it engages the bolt catch, and return the charging handle to its forward position.
4. Inspect the receiver and chamber of the weapon, by looking through the ejection port, to ensure these spaces contain no ammunition.
5. Check the selector lever to ensure it points toward SAFE; then allow the bolt to go forward by depressing the upper portion of the bolt catch.

Figure 3-9.-Pressing takedown pin to the right.

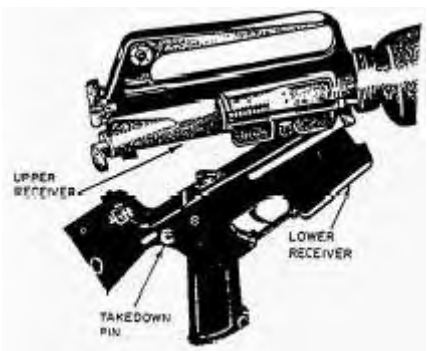


Figure 3-10.-Breaking upper receiver away from lower receiver.

FIELD-STRIPPING THE RIFLE

The individual Seabee is authorized to disassemble the M16 to the extent termed *field-stripping.* Field-stripping is done without supervision and is adequate for normal maintenance. As the weapon is disassembled, lay out the parts on a table or other clean surface in the order of removal from left to right. This makes reassembly easier because you can assemble the parts in the reverse order of disassembly.

Figure 3-11.-Pressing out receiver pivot pin.

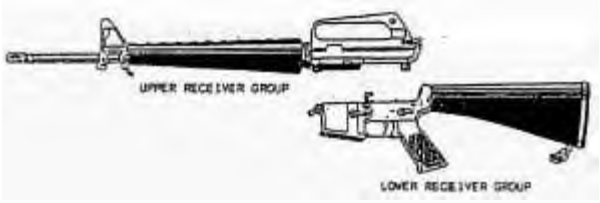


Figure 3-12.-Upper and lower receiver groups.

The steps infield-stripping are as follows:

1. Remove the sling, and place the rifle on a table or flat surface, muzzle to the left.
2. Turn the weapon on its right side, keeping the muzzle to the left. Press the takedown pinto the right (fig. 3-9) until the upper receiver swings free of the lower receiver (fig. 3-10).

   CAUTION The takedown pin does not come out of the receiver.

3. Press out the receiver pivot pin (fig. 3-11). Separate the upper and lower receiver groups (fig. 3-12), and place the lower receiver group on the table.

   CAUTION The receiver pivot pin does not come out of the receiver.

4. Pickup the upper receiver group, keeping the muzzle to the left. Grasp the charging handle; press in on the latch and pull it to the rear (fig. 3-7) to remove the bolt carrier from the receiver.

Grasp the bolt carrier and pull it from the receiver (fig. 3-13). When the bolt carrier is removed, the charging handle frills free of its groove in the receiver (fig. 3-14). Place the receiver on the table.

5. Press out the firing pin retaining pin (fig. 3-15) to disassemble the bolt carrier group. Elevate the front of the bolt carrier, and allow the firing pinto drop from its well in the bolt (fig. 3-16). Rotate the bolt until the cam pin is clear of the bolt carrier key. Remove the cam pin by rotating it 90 degrees (one-quarter turn) and lifting it out of the well in the bolt and bolt carrier (fig. 3-17). After the cam pin is removed, the bolt can be easily removed from its recess in the bolt carrier (fig. 3-18). Remove the extractor by first pushing the extractor pin out with the firing pin. Then, while maintaining pressure on the rear portion of the extractor with your index finger, withdraw the firing pin from the extractor pinhole. Release the pressure from the extractor and remove. The extractor should be disassembled only when necessary for cleaning. Disassembly of the extractor should be supervised. Since the extractor pin is quite small, handle it with care to prevent loss or damage.

   NOTE: Do not remove the extractor spring from the extractor. If the spring falls out of its recess, the battalion armorer should replace it.

6. Push in on the buffer assembly, using the index finger of the left hand. With the nose of a cartridge or some similar object, push down on the buffer retainer (fig. 3-19, view A). To remove the buffer assembly, press the hammer downward past the cocked position. After the body of the buffer assembly has cleared the hammer, you can withdraw the action spring from the lower receiver (fig. 3-19, view B).

   NOTE: The action spring is under pressure; therefore, take care when you are removing it. Step 6 should be performed only when absolutely necessary for care and cleaning.

Figure 3-20 shows the Ml6A1 service rifle field-stripped after you complete the above steps.

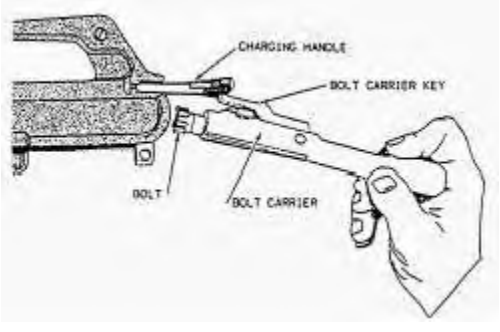


Figure 3-13.-Removing bolt carrier from receiver.

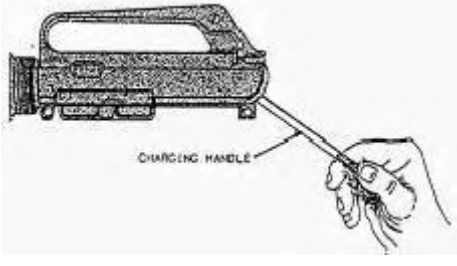


Figure 3-14.-Removing the charging handle.

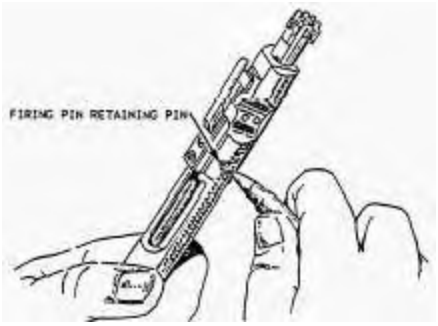


Figure 3-15.-Pressing out the firing pin retaining pin with the tip of a cartridge.

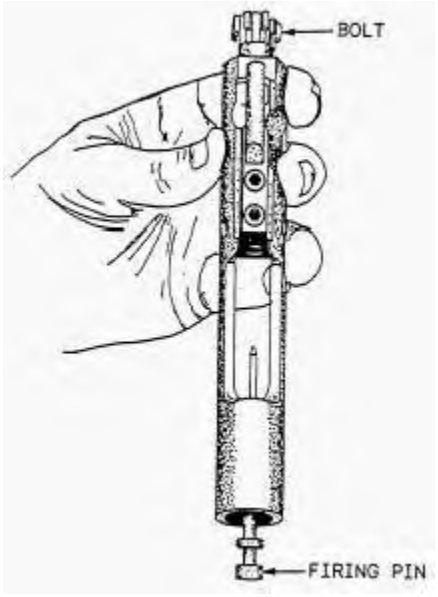


Figure 3-16.-Removing the firing pin.

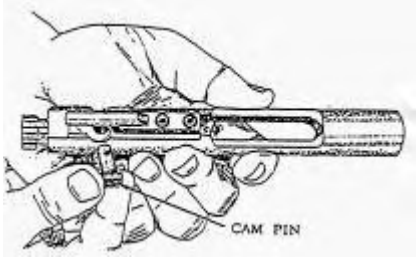


Figure 3-17.-Removing the cam pin.

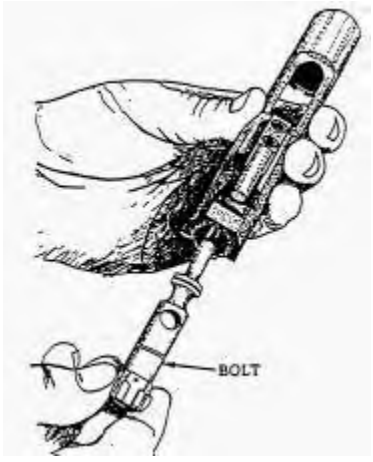


Figure 3-18.-Removing the bolt from the bolt carrier.

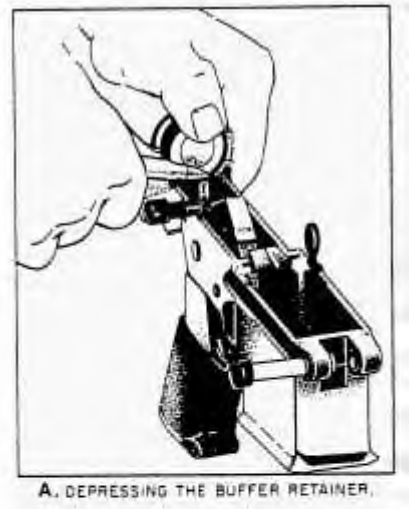


Figure 3-19.-Removing the buffer assembly and action spring.

ASSEMBLY OF THE RIFLE

To assemble the rifle, reverse the procedures of disassembly.

1. Insert the end of the assembly spring into the lower receiver extension; depress the cocked hammer to allow passage of the buffer assembly; depress the buffer retainer with the nose of a cartridge or the tip of the firing pin; seat the buffer assembly; and then release the buffer retainer.
2. Assemble the bolt carrier group by grasping the bolt and the extractor with the action spring. Seat the extractor in the extractor recess; apply pressure on the extractor to align the pinhole; and then insert the extractor pin. Pickup the bolt carrier with the carrier key up and to the front; insert the bolt into the front of the bolt carrier, ensuring that the ejector is down and to the left. Replace the cam pin into its well, and rotate the cam pin 90 degrees (one-quarter turn) to align the holes for the firing pin in the bolt and the cam pin. Grasp the lugged rim of the bolt, and turn it until the cam pin is directly under the bolt carrier key. Insert the firing pin through the open end of the bolt carrier and seat it folly. Insert the firing pin retaining pin (if you encounter resistance, rotate the pin while inserting it).

   CAUTION Do NOT attempt to spread the slotted end of the firing pin retaining pin.

   Check for proper assembly by elevating the front of the bolt. If the firing pin drops out, the firing pin retaining pin is not between the front and rear spool. The bolt carrier group is improperly assembled.

3. Grasp the upper receiver with the carrying handle up. Place the charging handle into the groove in the top of the upper receiver. The lugs on the charging handle must be seated in their grooves in the receiver. Place the bolt carrier group into the open end of the receiver, ensuring that the bolt carrier key is in the slot on the underside of the charging handle and the bolt is forward in the unlock position. Push forward on the bolt carrier group and charging handle until it is fully seated.
4. Place the upper receiver group and lower receiver group together, and reseat the receiver pivot pin.
5. With the hammer cocked and the selector lever on SAFE, close the weapon and seat the takedown pin.
6. Replace the handguards, and be sure that the slip ring is fully seated on the lower lip of both sections of the handguards. Take care to prevent damage to the upper and lower lips and to ensure proper seating.
7. A complete fictional check of the rifle consists of checking the operation of the weapon while the selector is in the SAFE, SEMI, and AUTO positions. Use the following sequence for a rapid, complete check. You may use any portion of the check alone to determine the operational condition of any specific fire selection.

   NOTE: Disengage the takedown pin and open receivers. The hammer must be in the cocked position.

   a. SAFE position. Pull the trigger; the hammer should not fall.

   b. SEMI position. Pull the trigger; the hammer should fall. Hold the trigger to the rear, recock the hammer, and release the trigger. The hammer should transfer from hammer hooks and

disconnect to the hammer and sear engagement.

c. AUTO position. Pull the trigger; the hammer should fall. Hold the trigger to the rear, and recock the hammer. The hammer is now under the automatic sear. Still holding the trigger to the rear, push forward on the automatic sear. The hammer should frill. Still holding the trigger to the rear, recock the hammer, release the trigger, and push forward on the automatic sear. The hammer should transfer to the sear engagement. Move the selector lever to SAFE or SEMI position. Close the receivers and engage the takedown pin.

CAUTION If the selector lever is not moved to the SAFE or SEMI position before you close the receivers, you can damage the automatic sear.

d. SEMI position. Pull the charging handle to the rear. Make certain the chamber is clear; then release the charging handle. Pull the trigger. The hammer should fall.

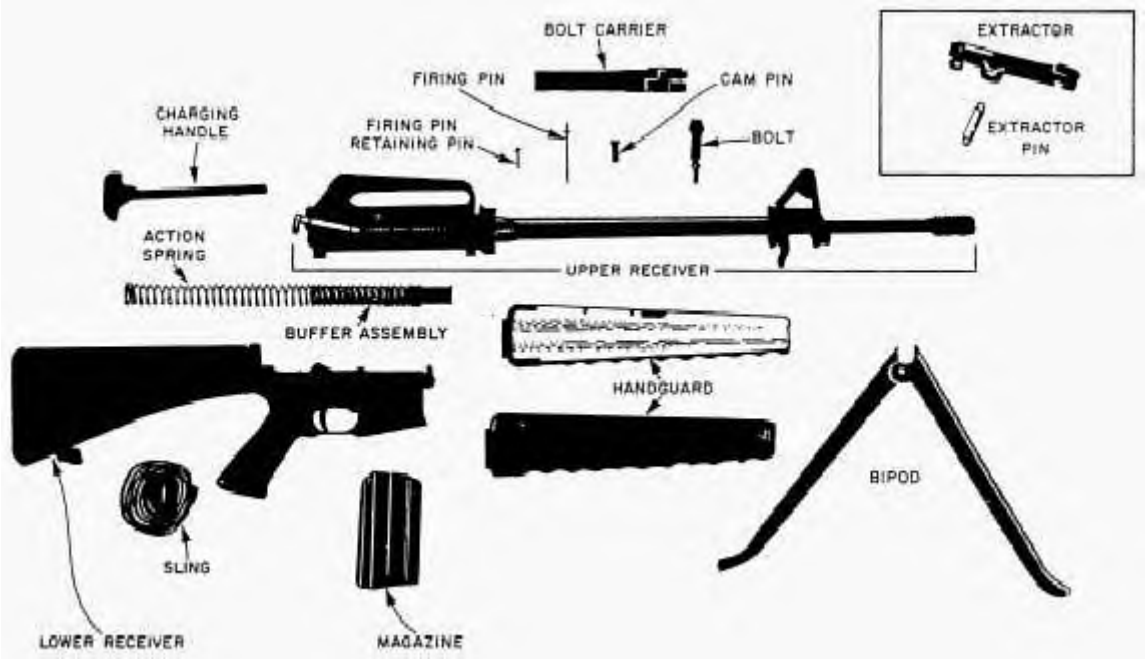


Figure 3-20.-The M16A1 service rifle field-stripped.

Figure 3-21.-Loading cartridges into the magazine, 20 rounds capacity.

LOADING THE RIFLE

With the hammer cocked, place the selector lever on SAFE. (See fig. 3-6.) Notice that you cannot place the selector lever on SAFE unless the rifle is cocked. You may insert the magazine with the bolt and bolt carrier open or closed; however, you should learn to load with the bolt open. This reduces the possibility of first-round stoppage and saves the time needed to pull the charging handle to the rear.

Hold the stock of the rifle under your right arm with your right hand. Grasp the pistol grip; then point the muzzle in a safe direction. With your left hand, insert the loaded magazine into the magazine housing. Push upward until the magazine catch engages and holds the magazine. Rap the base of the magazine sharply with the heel of your hand to ensure positive retention. If the action is open, release the bolt by depressing the upper portion of the bolt catch with the thumb of your left hand, allowing the action to close, chambering the round. If the action is closed when the magazine is inserted, pull the charging handle fully to the rear with your right hand and release it. (See fig. 3-7.)

NOTE: Do not "ride" the charging handle forward with the right hand. If the charging handle is eased forward from the open position, the bolt may fail to lock If the bolt fails to go frilly forward, use the bolt closure forward assist assembly (fig. 3-1) with the heel of your right hand. The rifle is now loaded and is ready to fire when you place the selector lever in the automatic or semiautomatic position. If it is not ready to fire, make sure the selector lever is on SAFE.

After the last round has been fired, the bolt catch holds the bolt carrier to the rear. To change the magazine for reloading, press the magazine catch button; remove the empty magazine from the weapon.

Onthefringe
HTML by deStihl

LOADING THE MAGAZINE

The magazine has a capacity of 20 rounds and may be loaded with any amount up to that capacity. The magazine follower has a raised portion generally resembling the outline of a cartridge. Cartridges are loaded into the magazine so the tips of the bullets point in the same direction as the raised portion of the follower (fig. 3-21).

CAUTION

Do not load or attempt to load more than 20 rounds in the magazine. Overloading deforms the lips of the magazine and causes malfunctions.

UNLOADING THE MAGAZINE

To prevent damage to the lips of the magazine, remove the ammunition in the following manner:

1. Hold the magazine in your left hand with the open end away from your body and with the nose of the cartridge down (fig. 3-22, view A).
2. Depress the center of the second round in the magazine using the nose of the cartridge, allowing the first round to drop out of the magazine (fig. 3-22, view B). Repeat this procedure until you remove all the rounds from the magazine except the last one.
3. Use the nose of the cartridge to depress the follower to remove the last round, allowing the last round to drop out of the magazine (fig. 3-22, view C).

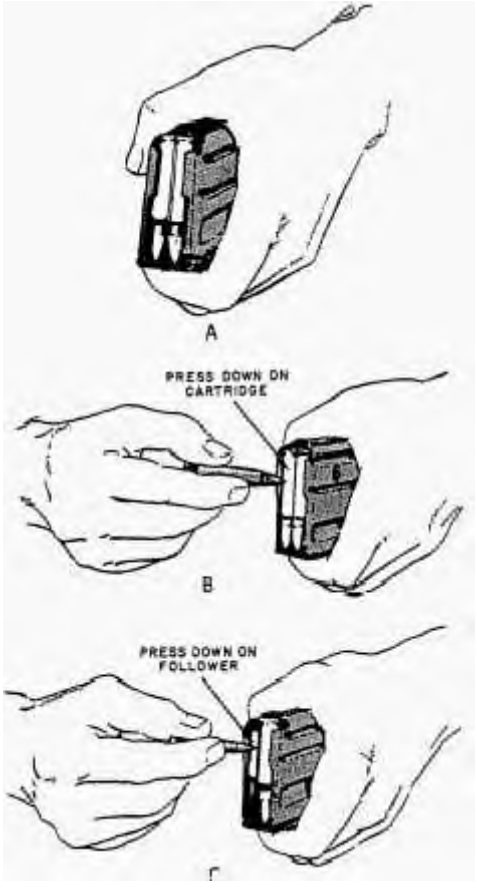


Figure 3-22.-Unloading the magazine with the nose of a cartridge.

Onthefringe
HTML by deStihl

FIRING THE RIFLE

The rifle fires semiautomatically or automatically when you move the selector lever to the desired position. (See fig. 3-5.) With the selector lever in the semiautomatic position, the rifle fires one round each time you pull the trigger. With the selector lever in the automatic position, the MI6A1 rifle continues to fire until the magazine is empty or you release the trigger. The M16A2, mentioned earlier, cannot fire fully automatically, but fires in short bursts of three rounds. When the rifle is fired in either SEMI or AUTO, the bolt locks in the open position when the last round from the magazine has been fired.

MALFUNCTION, STOPPAGE, AND IMMEDIATE ACTION

A malfunction is the failure of a weapon to function satisfactorily, usually because of excessive friction caused by dirt, improper lubrication, or carbon buildup. To correct this problem, you must clean the weapon. A stoppage is any interruption in the cycle of functioning caused by faulty action of the weapon or faulty ammunition To connect this problem, you should replace either the worn or broken part or the ammunition.

Immediate action is the action you take to correct the stoppage without analyzing the cause. Immediate action to clear a stoppage in the rifle is as follows:

1. Strike the forward assist assembly to ensure the extractor has engaged the round. Tap upward on the bottom of the magazine to ensure that it is fully seated. Pull the charging handle fully to the rear. Watch for the ejection of a complete cartridge or cartridge case.
2. If a cartridge or case is ejected, release the charging handle to feed a new round (do not ride the charging handle forward). Then strike the forward assist assembly to assure complete bolt closure. Attempt to fire the weapon. If the weapon fails to fire, inspect it to determine the cause of the malfunction and take the correct action.
3. If the cartridge or case is not ejected, check for around in the chamber. If the chamber is clear, release the charging handle to feed a round, strike the forward assist assembly, and attempt to fire. If the weapon still fails to fire, clear and inspect it to determine the cause of the malfunction and take the correct action.
4. If a cartridge or case is visible in the chamber, you must remove it before attempting to reload or recycle the rifle. Remove the stuck cartridge or case by inserting the cleaning rod into the bore from the muzzle end of the rifle and tapping the cartridge or case.

MISFIRE AND COOK OFF

These malfunctions rarely happen when you fire only authorized and properly maintained ammunition in properly maintained and operated weapons. However, you must understand the nature of each kind of malfunction as well as the proper preventive and corrective procedures in order to avoid personal injury or damage to your rifle. The following procedures for removing chambered cartridges associated with these malfunctions are given below:

1. MISFIRE. A misfire is a complete failure to fire, NOT a delay in firing that may be caused by a faulty firing mechanism or a faulty element in the propelling charge explosive train.
2. COOK OFF. A cook off is a functioning of any or all of the explosive components of a cartridge chambered in a hot weapon because of the heat from the continued firing of the weapon.

When this happens, attempt to remove the cartridge before 10 seconds elapse. If a cartridge is chambered in a hot rifle and can neither be fired nor removed, keep your rifle trained in a safe direction. Then allow for a minimum of 15 minutes to elapse before taking any further corrective action.

UNLOADING AND CLEARING THE RIFLE

To unload the rifle and make it safe, place the selector lever on the SAFE position (fig. 3-5); and remove the magazine by pressing the magazine catch

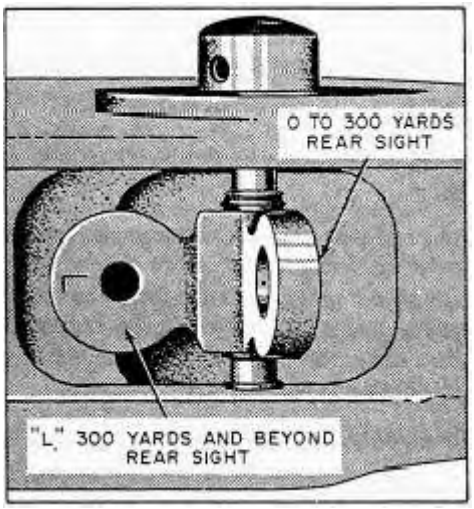


Figure 3-23.-Rear sight aperture.

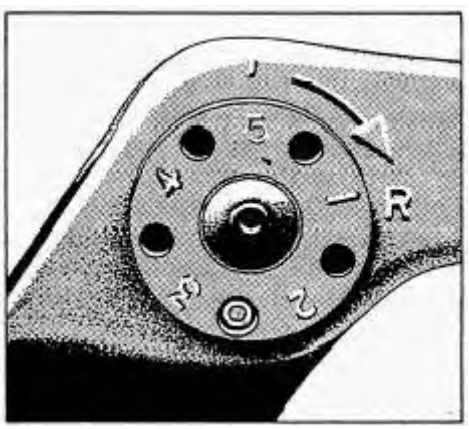


Figure 3-24.-Windage drum.

button (fig. 3-6). Pull the charging handle to the rear (fig. 3-7), ejecting any round from the chamber. Inspect the chamber and receiver to ensure that it is clear. Releasing the charging handle will allow the bolt to close. To keep the bolt open, depress the lower portion of the bolt catch before returning the charging handle forward (fig. 3-8). The rifle is clear only when no case or round is in the chamber, the magazine is out, the bolt carrier is to the rear, and the selector lever is on the SAFE position.

SIGHTS OF THE RIFLE

The sights of the rifle are adjustable for both windage and elevation. Windage adjustments are made on the rear sight; elevation adjustments are made on the front sight.

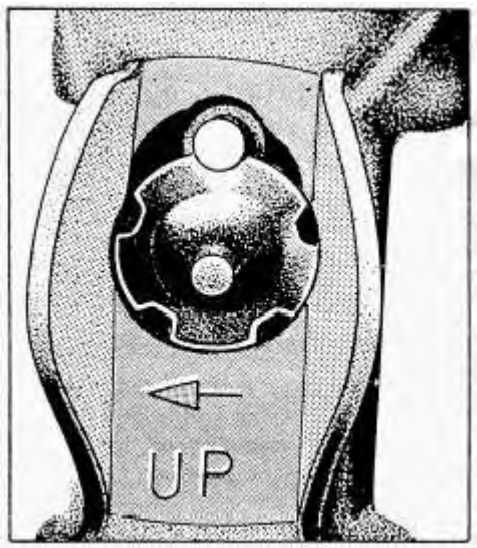


Figure 3-25.-Front sight, M16A1.

The rear sight consists of two apertures, as shown in figure 3-23, and a windage drum with a spring-loaded detent, as shown in figure 3-24. The aperture marked "L" is for use for ranges beyond 300 yards; and the unmarked aperture is for use for ranges from 0 to 300 yards. Adjustments for windage are made by pressing in on the spring-loaded stud with either a pointed instrument or the tip of a cartridge and rotating the windage drum in the desired direction.

The front sight of the Ml6A1 rifle consists of a rotating sight post with a spring-loaded stud (fig. 3-25). Adjustments are made by using a pointed instrument or a tip of a cartridge. To raise or lower the front sight post, depress the spring-loaded stud and rotate the post in the desired direction of change. A spring-loaded detent keeps the post from being moved accidentally. To raise the strike of the bullet, depress the detent and rotate the sight post clockwise.

Each click of elevation or windage adjustment will move the strike of the bullet a specific distance at a specific range. At a range of 100 yards, one click of either elevation or windage on the sights of the rifle will move the strike of the bullet approximately 1 inch, or 2.54 centimeters, up or down.

AMMUNITION FOR THE RIFLE

The 5.56-mm ammunition, as shown in figure 3-26, for the M16 rifle is classified as small arms ammunition and is issued in the form of a complete round. A complete round (cartridge) consists of all the components necessary to fire the weapon once; that is,

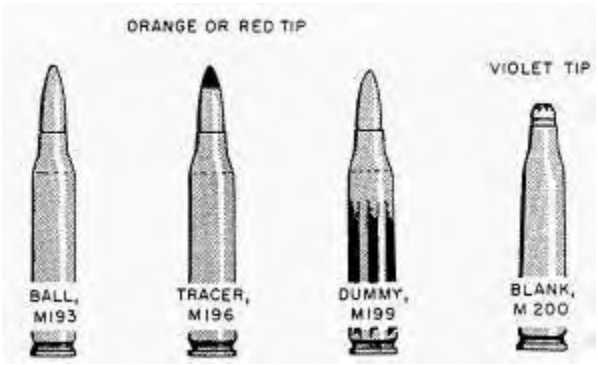


Figure 3-26.-5.56-mm ammunition for the M16A1 and M16A2 rifles.

projectile (bullet), propellant, and primer. Based upon the type of projectile, the ammunition for use in the rifle is classified as follows:

1. The ball cartridge, M193, is for field use and has no distinguishing marks. When shot from the rifle, its muzzle velocity is approximately 3,250 feet per second. It has a maximum range of 3,000 yards, but the maximum effective range is 500 yards.
2. The tracer cartridge, M196, is used to observe fire and for incendiary effect. You can identify it by an orange- or a red-painted tip, depending on the ammunition lot number. The use of only tracer cartridges may cause deposits of the bullet-jacket material (metal fouling) to form in the bore and rifling grooves of the barrel. These tracer deposits are extremely difficult to remove and are a potential safety hazard. Therefore, when tracer ammunition is fired in the M16 rifle, you should intermix it with ball ammunition in a ratio of no less than four ball rounds to each tracer round.
3. The dummy cartridge, M199, cannot be fired. You can identify it by six lengthwise ridges in the case. The dummy cartridge is for use in training only.
4. The blank cartridge, M200, is for use in training and ceremonial salutes. Its case mouth is closed with a rosette crimp that has a violet tip. You can identify it by the knurled band around the lower portion of the case. The grooves help identify the types of cartridges by feel when you cannot see the colored tip in the dark

CARING AND CLEANING OF THE RIFLE AND AMMUNITION

A clean, properly lubricated and maintained rifle loaded with clean ammunition will fire when needed. In order to keep the rifle in good condition, it must have care and cleaning. Under bad weather conditions, some key parts may need care and cleaning several times a day. The cleaning material, as shown in figure 3-27, used for the care of the rifle, is carried in the rifle stock Special attention must be given to the following areas:

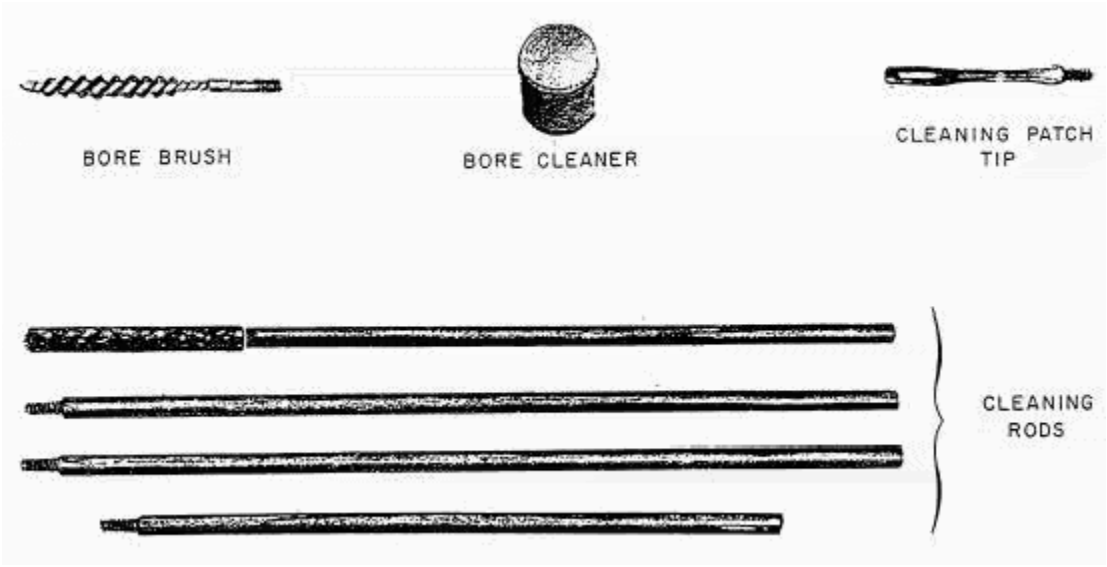


Figure 3-27.-M16A1 and M16A2 rifle cleaning material.

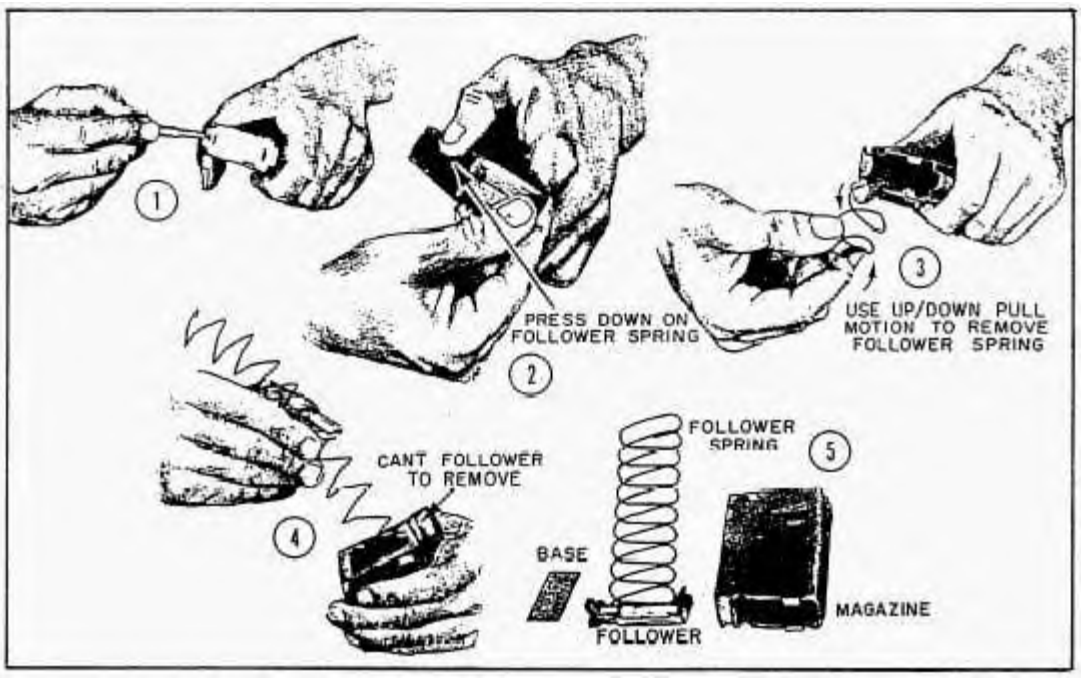


Figure 3-28.-Disassembly of the 20-round magazine.

1. BARREL BORE and CHAMBER. After dipping a bore brush in the bore cleaner, brush from the chamber to the muzzle, using straight-through strokes. Do NOT reverse the brush while it is in the bore or it may jam. A jammed brush is hard to remove, and it can possibly damage the bore when you do this. After dipping the brush in bore cleaner, clean the chamber with the chamber brush. Replace the bore brush with a slotted cleaning patch tip, and push the dry patches through the bore and chamber until they come out clean. After cleaning the bore, lightly lubricate the bore and chamber to prevent corrosion and pitting, using the recommended lubricant on a patch. Lightly lubricate the lugs in the barrel extension.
2. BOLT CARRIER GROUP. Dip the bore brush in the bore cleaner, and clean the inside of the carrier key. Dry with a pipe cleaner. Clean the locking lugs, bolt, extractor ejector, and bolt rings with the bore brush. Remove any accumulation of dirt, carbon, or oil from the firing pin and the external and internal surfaces of the bolt and bolt carrier. Be sure to wipe all parts dry; then lubricate them with the recommended lubricant.
3. UPPER RECEIVER GROUP. With the bore brush or a swab coated with bore cleaner, remove the powder fouling collected on the group. Clean the protruding gas tube inside and outside. After cleaning these components, wipe them dry, and apply alight coat of the recommended lubricant.
4. LOWER RECEIVER GROUP. With the bore brush or a swab coated with bore cleaner, remove dirt, carbon, and sand from the lower receiver group. Dry and apply alight coat of the recommended lubricant.
5. AMMUNITION MAGAZINES. After removing all cartridges from the magazine, depress the spring steel lock band on the bottom of the magazine, using the nose of a cartridge (fig. 3-28, view 1). Slide the base until it is free of the tabs, and remove it from the magazine body (fig. 3-28, view 2). Remove the magazine spring and follower (fig. 3-28, view 3), but do not remove the follower from the spring (fig. 3-28, views 4 and 5). Clean the exterior and interior of the magazine with a dry rag or swab. Apply a light coat of the recommended lubricant to the magazine spring only; otherwise, keep the magazine dry. You assemble the magazine in reverse order and test it to ensure that the follower is free to move without binding. If the magazine and the ammunition in it gets wet, be sure to wipe them dry as soon as possible. When left wet, both the magazine and the ammunition can become corroded and are dangerous to use. Remember not to use oil or grease on any cartridge. If you do this, injurious abrasives can collect in the weapon or produce excessive and hazardous chamber pressures when the weapon is freed. Whenever practical, ammunition should be stored under cover. This

applies particularly to tracer ammunition.

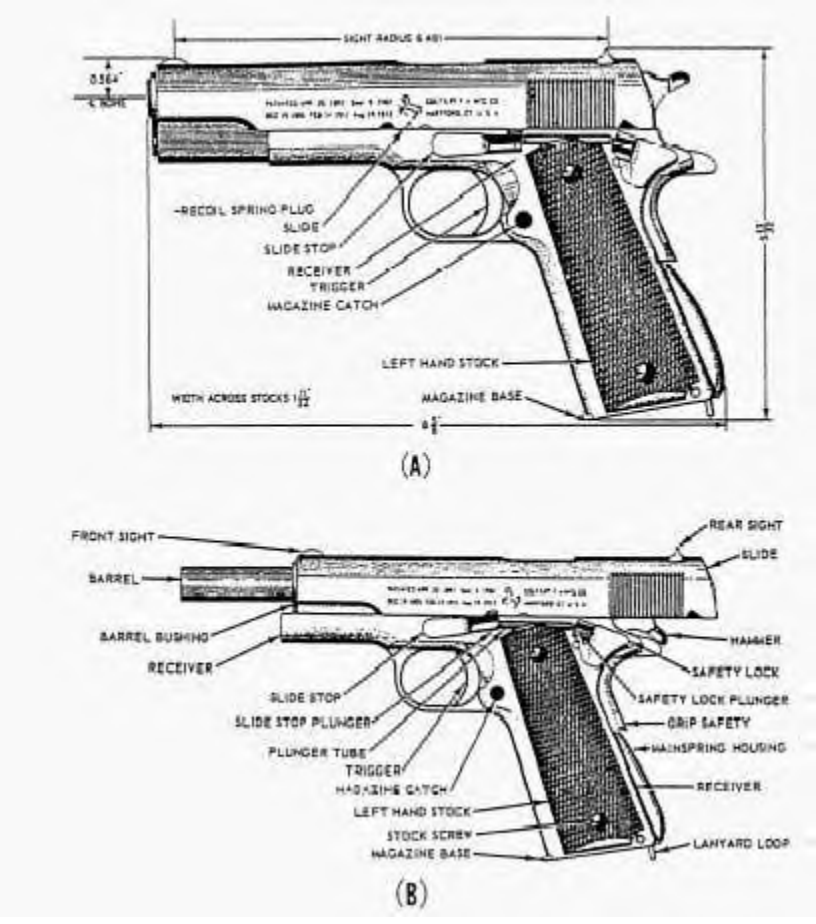


Figure 3-29.-45-caliber semiautomatic service pistol-(A) assembled and (B) sectional view in recoil position.

THE .45-CALIBER SERVICE PISTOL

The .45-caliber service pistol shown in figure 3-29 is an individual weapon intended for use in close combat. The .45-caliber pistol is a semiautomatic, recoil-operated, magazine-fed hand weapon. The pistol fires one round each time the trigger is squeezed. The pistol can be carried in either a hip or shoulder holster. The magazine holds seven cartridges. The forward movement of the slide strips the upper cartridge from the magazine into the chamber. After the last cartridge from the magazine has been fired, the slide remains in the rear.

Only your ability to change magazines, aim, and squeeze the trigger rapidly limits the rate of fire of the .45-caliber service pistol.

The pistol is 8 5/8 inches in length and weighs 3 pounds frilly loaded, with a maximum range of 1,500 yards, and a maximum effective range of 50 yards. It uses different kinds of .45-caliber ammunition. (These will be discussed later under ammunition.)

As a Seabee, you are expected to keep this weapon in good working condition. To ensure that it will function correctly, you must disassemble it to inspect and clean the parts. Procedures for general disassembly (field-stripping), assembly, functioning, loading, firing, unloading, malfunctions, stoppages, immediate action, and the care and cleaning of the service pistol will be covered in the following sections.

Figure 3-30.--Magazine removal and chamber inspection for a right-handed firer.

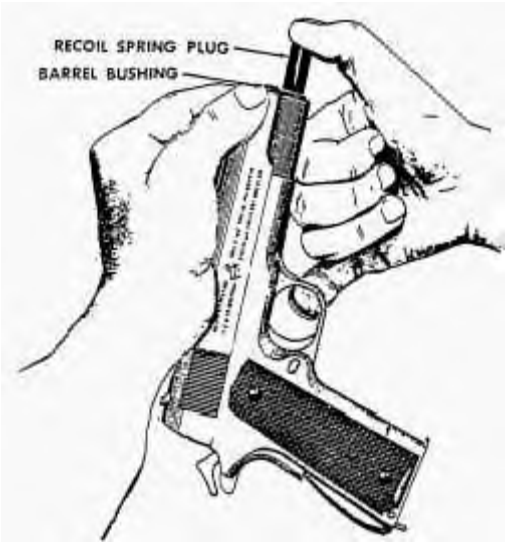


Figure 3-31.-Recoil spring plug removal from the recoil spring.

Onthefringe
HTML by deStihl

GENERAL DISASSEMBLY (FIELD-STRIPPING)

General disassembly is the disassembly necessary for normal care and cleaning. To field-strip the service pistol, perform the steps in the following order:

1. Hold the pistol in the raised pistol position, press the magazine catch, and remove the magazine, as shown in figure 3-30, for a right-handed firer. The left-handed firer should reverse hands for this procedure. Pull the slide to the rear and inspect the chamber to see that the weapon is clear. Press down on the slide stop and allow the slide to move forward. Press the thumb safety lock upward to the SAFE position.
2. Press down on the recoil spring plug and turn the barrel bushing one-fourth turn clockwise, as shown in figure 3-31. Allow the recoil spring to expand slowly, under control, to prevent injury or loss of the part and remove the plug. Turn the recoil spring plug counterclockwise and remove it. Leave the recoil spring in place.
3. Press the thumb safety lock downward to the FIRE position. Push the slide to the rear until the disassembly notch, as shown in figure 3-32, is aligned with the rear projection on the slide stop. Press the protruding end of tie slide stop, and then pull out the slide stop.
4. Pull the receiver rearward to separate it from the slide, as shown in figure 3-33.
5. Remove the recoil spring guide and recoil spring, as shown in figure 3-34. Separate the two parts with a twisting action.
6. Remove the barrel bushing by turning it counterclockwise, as shown in figure 3-35, and pulling it from the slide.
7. Push the barrel link forward and remove the barrel from the front end of the slide, as shown in figure 3-36. This completes the field-stripping. Observe figure 3-37. It shows the parts of the pistol in the order of the field-stripping just completed.

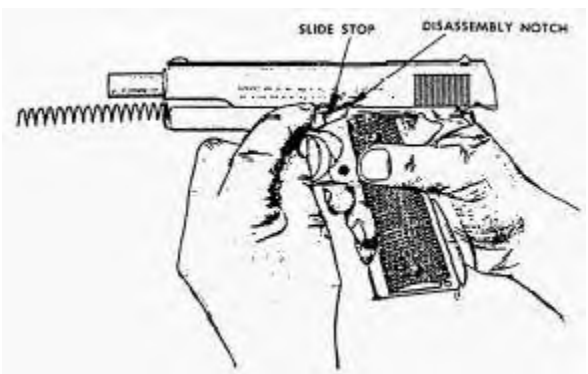


Figure 3-32.-Sllide stop removal.

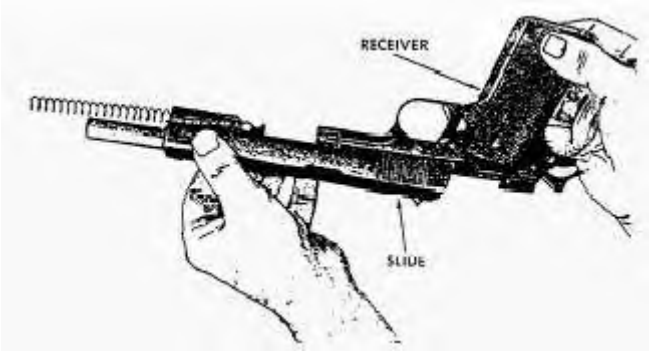


Figure 3-33.-Separating the receiver from the slide by pulling the receiver rearward.

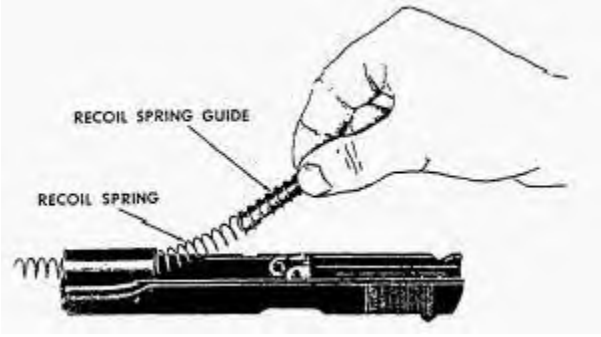


Figure 3-34.-Recoil spring guide and recoil spring removal.

Figure 3-35.-Barrel bushing removal from the slide.

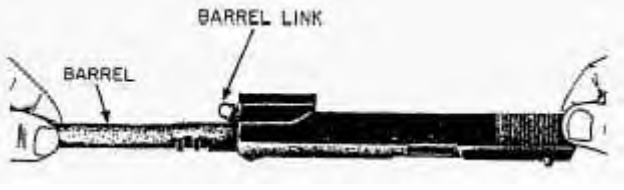


Figure 3-36.-Barrel removal from the slide.

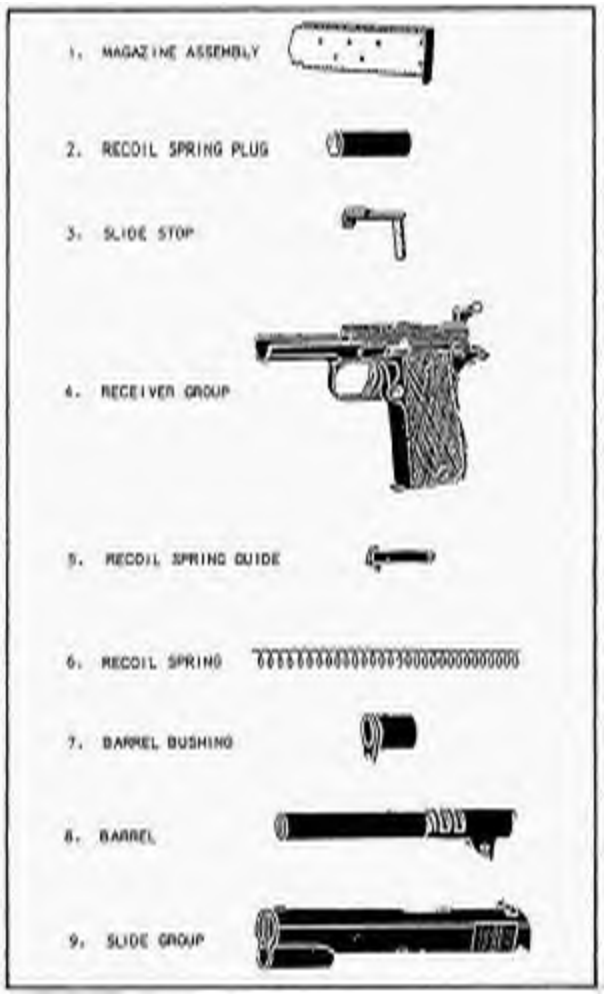


Figure 3-37.-Parts of the pistol in order of field-stripping.

ASSEMBLY

To assemble the pistol after the field-stripping procedure, replace the parts in the reverse order of the disassembly.

1. BARREL. Push the barrel link forward on the barrel and replace the barrel, chamber end first, in the slide. (See fig. 3-36.)
2. BARREL BUSHING. Place the barrel bushing on the muzzle end of the barrel, push it into the slide, and turn it clockwise. (See fig. 3-35.)
3. RECOIL SPRING AND RECOIL SPRING GUIDE. Insert the recoil spring guide into the tightest end of the recoil spring. Replace these parts in the slide. (See fig. 3-34.) Be sure the concave cut on the recoil spring guide collar is properly seated in the barrel. Push the barrel, recoil spring, and recoil spring guide frilly forward in the slide, ensuring that the barrel link is positioned forward and rests against the hole in the recoil spring guide. (See fig. 3-33.)
4. ASSEMBLING THE RECEIVER GROUP TO THE SLIDE GROUP. Hold the slide with the sights down in the palm of one hand. Invert the receiver (the safety lock must be in the FIRE position) and engage the guide rails of the receiver in the grooves of the slide. (See fig. 3-33.) Push the receiver all the way forward on the slide with a quick motion.
5. SLIDE STOP. Hold the pistol as shown in figure 3-33. Look through the slide stop pinhole in the receiver for alignment of this hole with the hole in the barrel link If the holes are not aligned, move the muzzle end of the barrel forward or rearward to align them. Insert the slide stop pin into the holes. Move the slide forward until the disassembly notch is over the square hole in the

left side of the receiver. (See fig. 3-32.) Press the slide stop up and in to seat it fully. In some cases, a punch may be required to depress the slide stop plunger in order to seat the slide stop fully.

6. RECOIL SPRING PLUG. Push the slide frilly forward on the receiver and press the thumb safety lock upward to the SAFE position. Place the recoil spring plug on the recoil spring. Turn the recoil spring plug clockwise to lock the plug to the recoil spring. Holding the pistol, as shown in figure 3-31, insert the recoil spring and push downward on the recoil spring plug, compressing the spring until the plug is inside of the slide. Turn the barrel bushing counterclockwise to lock the recoil spring plug in place. Press the safety lock downward to the FIRE position and squeeze the trigger.
7. MAGAZINE. Insert the magazine into the magazine recess of the pistol until it is fully seated and held by the magazine catch. (See fig. 3-30.) This completes the pistol assembly.

Onthefringe
HTML by deStihl

FUNCTIONING

By disassembling and assembling the pistol, you become familiar with the parts. Understanding how the pistol functions will help you keep the weapon in operating condition and reduce stoppages that may occur during firing.

Each time a cartridge is fired, the parts inside the pistol (fig. 3-29) function in a given order. This is known as the cycle of operation (functioning).

The cycle of operation of the pistol is divided into eight basic steps; however, more than one step may be occurring at the same time. The following steps occur in the order listed below:

1. FEEDING-placing a cartridge in the receiver, approximately in back of the barrel ready for cambering
2. CHAMBERING-moving the cartridge from the magazine into the chamber
3. LOCKING-sealing the cartridge in the chamber and blocking the breech end of the barrel
4. FIRING-igniting the primer and firing the cartridge
5. UNLOCKING-unsealing the breech end of the barrel
6. EXTRACTING-removing the cartridge case from the chamber
7. EJECTING-removing the cartridge case from the weapon
8. COCKING-returning the firing mechanism to the cocked position ready to fire another cartridge

SAFETY DEVICES

The pistol has three safety devices: the safety lock the grip safety, and the half-cock notch on the hammer. The safeties must be tested often, and always before the pistol is fired. The disconnector is not considered a positive safety like the three safeties listed above. The disconnector is not a positive safety because it is designed for use to fire the pistol on semiautomatic fire and cannot be controlled by the firer.

Onthefringe
HTML by deStihl

OPERATIONAL SAFETY CHECKS WARNING

Before making the following test, inspect the pistol to ensure that the magazine is removed and the chamber is empty.

SAFETY LOCK. Cock the hammer and press the safety lock up into the SAFE position. Grasp the stock so that the grip safety is depressed and squeeze the trigger three or four times. If the hammer falls, the safety lock is not safe; and it must be replaced.

GRIP SAFETY. Cock the hammer, being careful not to depress the grip safety, and squeeze the trigger three or four times. If the hammer falls, the grip safety or sear spring must be replaced.

HALF-COCK NOTCH. Pull the hammer rearward until the sear engages the half-cock notch and squeeze the trigger. If the hammer falls, the hammer or sear must be replaced.

LOADING

Draw the pistol from the holster and hold it at the raised pistol position. Insert a magazine loaded with from one to seven rounds of ammunition. Grasp the slide with the left hand, thumb on the right side of the slide. Pull the slide fully to the rear, release, and press the safety lock up to the SAFE position with the left forefinger. Left-handed personnel should reverse the hand positions for this procedure.

FIRING

To fire the pistol right handed, press the safety lock down to the FIRE position with the left thumb to prevent disturbing the firing grip of the right hand. Left-handed Seabees should reverse the above thumb and hand directions to complete this procedure. Obtain the correct sight alignment and sight picture and squeeze the trigger. To fire successive shots, you must release the trigger and squeeze again. When the last cartridge from the magazine has been fired, the slide returns to the rear.

UNLOADING

To unload the pistol, hold it at the raised pistol position. Press the magazine catch and remove the magazine. If the slide is in the forward position, pull the slide to the rear, and push the slide stop up. Inspect the chamber to ensure that the pistol is clear. Press the slide stop down, allowing the slide to go forward. Keep the pistol at the raised pistol position, squeeze the trigger, and then holster the weapon.

MALFUNCTIONS

A malfunction is a future of the weapon to function satisfactorily. Malfunctions are classified as defects in the weapon that normally do not cause a break in the cycle of operation. You may discover a malfunction, for example, when the grip safety does not block the trigger or when the slide does not remain to the rear after the last round is fired.

STOPPAGES

A stoppage is any unintentional interruption in the cycle of operation. If the. pistol stops firing through

no fault of yours or the weapon does not fire when you attempt to fire it, then a stoppage has occurred. Stoppages are classified as a malfunction of one of the eight steps in the cycle of operation given in the previous section. Stoppages are usually the result of worn parts or improper care of the weapon.

IMMEDIATE ACTION

Immediate action is the prompt action you take to reduce a stoppage. The procedure for immediate action should bean instinct when you are armed with the pistol. If a stoppage occurs, apply immediate action automatically in an effort to reduce the stoppage without attempting to discover the cause at that time.

If the slide is fully forward, the hammer falls but the pistol fails to fire, apply immediate action as follows:

1. Manually cock the hammer without opening the chamber and make one additional attempt to fire. If the pistol still fails to fire, wait 10 seconds; then come to the raised pistol position. Grasp the slide with the thumb and first finger of the left hand, keeping the thumb on the right side of the slide. Left-handed shooters should reverse hand and thumb directions for this procedure. Rapidly pull the slide rearward to its full extent. Rotate the pistol to the right allowing the unfired round to drop out, release the slide, and allow it to return to the forward position, cambering anew cartridge.
2. **CAUTION** Keep the pistol pointed down range during this operation.
3. Aim and attempt to fire. If the slide is not fully forward, apply immediate action as follows: remove the trigger finger from the trigger guard; and with the nonfiring hand, attempt to push the slide fully forward.

If the slide will not move forward, proceed as follows:

1. Bring the weapon to the raised pistol position.
2. Remove the magazine.
3. . Grasp the slide with the nonfiring hand, pull the slide to the rear, and lock it with the slide stop.
4. Inspect the chamber. Remove any obstructions.
5. Insert another loaded magazine into the pistol.
6. Release the slide.
7. Aim and attempt to fire.

CARING AND CLEANING THE PISTOL

Care and cleaning the pistol includes daily preventive maintenance, which is the ordinary care of the pistol required to preserve its condition and appearance when no firing is done. Cleaning before firing ensures that the pistol is safe to fire and is properly lubricated for efficient operation. Cleaning after firing ensures that all corrosion-inducing agents deposited in the bore and chamber of the pistol are completely removed.

Daily Preventive Maintenance

Damp air and sweaty hands are great promoters of rust. You should clean your pistol and protect it with the recommended oil after every firing or handling. You should inspect the pistol each day and clean it if necessary.

To clean the pistol, rub it with a rag lightly saturated with oil; then rub it with a dry cloth. Clean the bore with a swab saturated with oil, and then, with a dry swab. Dust out all crevices with a small, clean brush. To protect the pistol after cleaning it, cover all the surfaces, including the bore and chamber, with a light coat of lubricating, preservative oil.

After cleaning and oiling the pistol, place it back in your holster or the pistol rack Do not place a cover, such as canvas, over the pistol because it collects moisture that rusts the metal.

Care and Cleaning before Firing

Before the pistol is fired, you should clean and dry the bore and chamber and exterior parts of the receiver of the pistol. You should lubricate the guide rails on the receiver and the grooves on the slide with oil. Place a light coat of oil on all other interior metal parts EXCEPT those that come in contact with the ammunition. Excess oil should be removed from the grips and the grip area of the receiver to aid you in griping the weapon.

Care and Cleaning after Firing

You must clean the pistol as soon as possible on the day of firing and daily for the next 3 days, or longer if necessary. Do this in the following manner:

1. Disassemble the pistol.
2. Clean all parts with a rag lightly saturated with oil. Dry all parts and apply alight coat of oil.
3. Clean the bore and chamber as follows:

- Wet a swab with rifle bore cleaner and run it back and forth through the bore several times.
- Attach the pistol bore brush to the cleaning rod and run it through the bore and chamber several times.
- Run dry swabs through the bore and chamber until they are clean.
- Inspect the bore for cleanliness. If it is not free of all residue, repeat the cleaning process.
- When the bore and chamber are clean, coat them with rifle bore cleaner and leave it on overnight.
- Assemble the pistol.

- Apply a light coat of oil to the exterior surfaces of the pistol.
- After the third daily cleaning, if the bore and chamber are clean, remove the rifle bore cleaner.

Replace the bore cleaner with alight coat of lubricating, preservative oil.

AMMUNITION

As a Seabee armed with the .45-caliber pistol, you must be familiar with the types of ammunition for your pistol and be able to identity each type of ammunition. A pistol cartridge is a complete assembly consisting of all the components necessary to fire the weapon once; that is, the cartridge case, bullet, propellant powder, and primer.

The types, uses, and means of identification of the ammunition used in the .45-caliber pistol are the following:

1. Ball cartridge, M1911, is for use against personnel and light material targets. The ball round consists of a metal jacket surrounding a lead alloy core. The bullet tip is unpainted.
2. Blank cartridge, M9, is used to simulate fire and for salutes. This cartridge can be fired single shot only in the pistol. You can identify it by the absence of a bullet and by its tapered mouth.
3. Dummy cartridge, M1921, is used for training personnel in the operation of loading and unloading the pistol and for testing weapons. It is used also in marksmanship training by mixing it with live ammunition during instruction practice firing. You can identify this cartridge by the empty primer pocket and the two holes in the cartridge case.
4. Tracer cartridge, M26, is used for observation of fire. Secondary uses are for incendiary effect and for signaling. The cartridge consists of three parts: (1) a copper-plated, or guiding metal-clad, steel jacket; (2) a slug of lead, hardened with antimony (a chemical hardening element); and (3) a tracer mixture in the rear . portion of the jacket. For identification, the bullet is painted red for a distance of approximately three-sixteenths of an inch from the tip.

Small arms ammunition is generally safe to handle. However, you must protect the ammunition you are using from mud, sand, dirt, and water. Keep it clean, dry, and ready for use.

Do NOT oil or polish pistol cartridges.

Do NOT expose the ammunition to direct sunlight for any length of time. If the powder is heated, excessive pressure develops when the weapon is fired. This condition affects the accuracy and the operation of the weapon.

Do NOT attempt to fire cartridges that have dents, scratches, loose bullets, or corroded cases. If any cartridges are defective, turn them in to your supply point. Do not throwaway or attempt to destroy defective ammunition.

Do NOT strike the primer of a cartridge; it may ignite and cause injury.

MARKSMANSHIP

The purpose of marksmanship training is to provide proper information and instruction so you can become a safe and effective shooter.

Good shooting, whether on the firing range or in combat, depends upon the application of basic marksmanship principles. These principles are interrelated and must be practiced each time you fire a shot so you achieve effective results.

There are two parts to this section. The first part describes the techniques of firing a rifle and a pistol. The second part deals with the principles and practices of directing and controlling the combined fire power of rifles and machine guns.

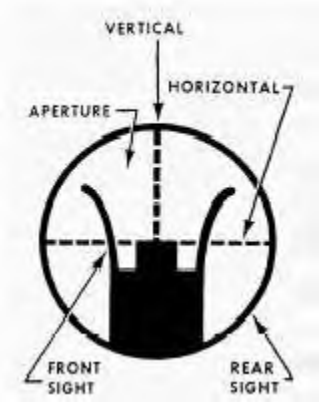


Figure 3-38.-Proper sight alignment.

FIRING TECHNIQUES-RIFLE

The most important factors involved in correct sighting and aiming are proper sight alignment and a correct aiming point. Together they make up the sight picture.

Sight Alignment

Sight alignment is the art of looking through the rear sight aperture, focusing the eye on the front sight post (or blade), and centering the front sight post exactly in the rear sight aperture both vertically and horizontally. The body of the front sight post, or blade, is centered vertically. The tip of the front sight post, or blade, is centered horizontally within the rear sight aperture (fig. 3-38).

REAR SIGHT.- In each firing position (prone, standing, kneeling, and sitting), the aiming eye is at a slightly different distance from the rear sight. This distance, refereed to as eye relief, causes the opening (peep) of the rear sight to appear larger or smaller, depending on the firing position. Regardless of the apparent size of the rear sight opening, the front sight must be aligned in the center of the opening. It is important to keep your eye the same distance from the peep sight in any particular firing position. To ensure this distance is always the same, you must hold the rifle in the same exact location for each shot. This location is commonly called the SPOT WELD, or anchor. There are several tricks shooters use to help them maintain this distance. One is to place a small piece of tape on the stock of the rifle where it touches the cheek. In this manner, the shooters can feel whether their cheek has the proper eye relief.

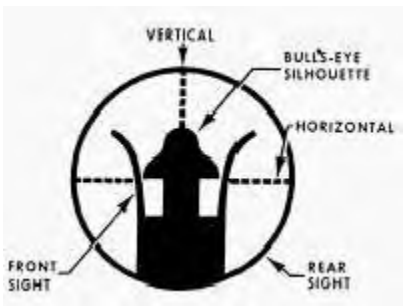


Figure 3-39.-6 o'clock sight picture held on "A" target at a range of 200 yards.

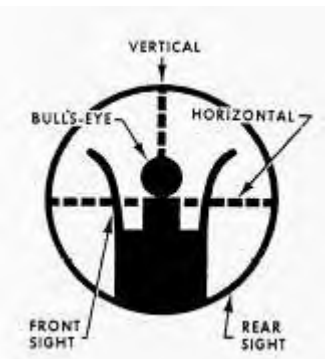


Figure 3-40.-6 o'clock sight picture held on "D" target at a range of 200 yards.

FRONT SIGHT.- The friont sight always appears to be the same size. However, depending on the distance your eye is from the rear sight, more or less of the front sight may be visible in the sight picture. The front sight, not the target, is the point of focus for the eye; and as such, it will be sharp and distinct in outline. For this reason, keep the front sight square, leveled, and blackened.

AIMING POINT.- The aiming point is that point on the target upon which the sights of the weapon are brought to bear. The correct aiming point is at 6 o'clock; that is, the bottom of the bull's-eye of a type "A" target (fig. 3-39) or the silhouette of a type "D" target (fig. 3-40). Any location on the target face is always given relative to a similar position on a clockface regardless of the target shape. Therefore, a vertical line in the exact center of the target would be described as running from 12 o'clock (top) to 6 o'clock (bottom).

SIGHT PICTURE.- You obtain the correct sight picture by aligning the rear sight, the front sight, and the bull' s-eye (figs. 3-39 and 3-40). Each of these three elements affects the sight picture. As you can see from figure 3-41, any error in sight alignment will increase as the range increases. An error in the aiming point remains constant as the range increases. Therefore, of the two, sight alignment is the most important.

At close ranges, the bull's-eye or silhouette will appear larger in relation to the front sight, than it will at longer ranges. This means that the sight picture will vary

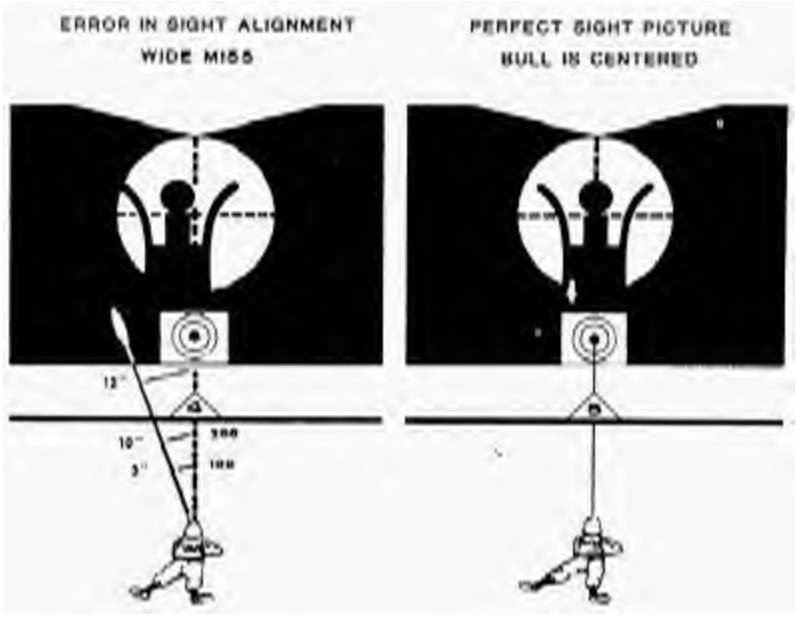


Figure 3-41.-Error in sight alignment increases as range increases.

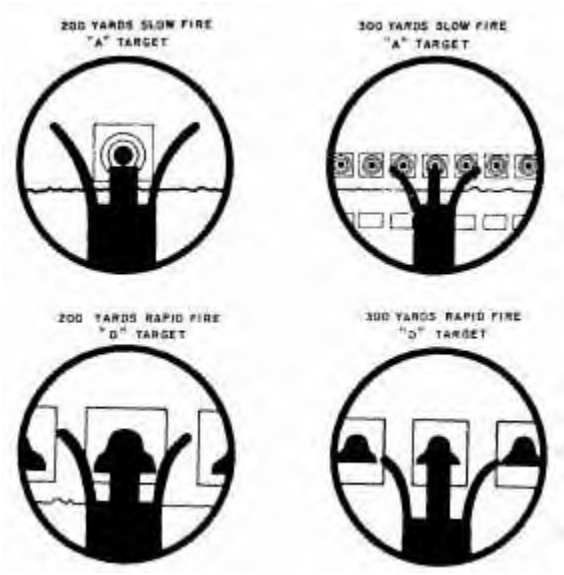


Figure 3-42.-Variation in sight picture for each range of fire.

not only from one firing position to another but also from one firing line to another (fig. 3-42).

TRAINING.- You will receive training in aiming along with the position and trigger squeeze before actually firing on the rifle range. You do this by aiming at a series of small bull's-eyes at least 20 feet away on a "dry-firing" range; this training is known as "snapping in."

BLACKENING SIGHTS.- You should blacken the sights during sighting and aiming exercises to help eliminate light reflection or glare. Blacken all sights, both front and rear, on the base of the receiver and the top of the barrel. The usual way of blackening a sight is by means of a smudge pot, carbide lamp, oily patch, candle, cigarette lighter, or ordinary match. Be sure to remove all oil from the sight before blackening it.

Onthefringe
HTML by deStihl

Shooting Positions

A correct shooting position is essential to obtain the best results in rifle shooting. The better the position, the easier it is to hold the rifle and squeeze the trigger while the sights are properly aligned on the target. However, no degree of excellence in the position will compensate for lack of practice. You may have difficulty in assuming a connect position until sufficient practice has limbered up your muscles. Once your muscles are limber, you will find the positions both comfortable and steady.

The Seabee qualification course requires you to learn and use four standard positions: prone, standing, kneeling, and sitting. These positions have been selected as a result of experience and have been found to produce excellent results with men and women of all physical types.

Once you master the correct positions, you must combine sighting and aiming with your practice. Learn to get into the correct position and align the sights without moving the rifle. If the target is not properly aligned with the sights, you must move your body instead of the rifle until you obtain the proper sight picture.

PRONE POSITION.- The prone position (fig. 3-43) is a steady position that is easy to assume and excellent for initial training. In the field, the position presents a low silhouette and is readily adaptable to the use of cover and support. However, observation from this position is difficult.

Figure 3-43.-Prone position.

Figure 3-44.-Standing position.

Figure 3-45.-Kneeling position.

STANDING (OFF-HAND) POSITION.- The standing position (fig. 3-44) is used to engage surprise targets that appear at close ranges. Normally, you use

Figure 3-46.-Sitting position.

this position when engaging targets less than 100 yards in range and when you are constantly firing and moving.

KNEELING POSITION.- The kneeling position (fig. 3-45) is a natural position that can be assumed quickly. It is suitable for use on level ground or on ground that slopes upward

SITTING POSITION.- There are three variations of the sitting position: open leg, cross leg, and cross ankle. The position used depends entirely on the shooter. For steadiness, the open-leg position (fig. 3-46) is second only to the prone position. This position is especially suited for use on ground that slopes downward. The other two alternate sitting positions are the cross-legged position (fig. 3-47) and the cross-ankled position (fig. 3-48).

Trigger Control

The most important single factor in marksmanship is trigger control. Everything about your position and aim may be perfect; but if you do not squeeze the trigger properly, your shot will not go where you aimed it. The prime consideration in trigger control is that the trigger must be squeezed smoothly, gradually, and evenly straight to the rear. Any sideward pressure, however slight, applied to the trigger during its rearward movement will likely result in a wide shot. Similarly, upward or downward pressure on the trigger will result in high or low shots.

The trigger hand must grasp the stock or pistol grip firmly, but without strain, so the trigger finger will have proper support in overcoming the trigger weight. An

Figure 3-47.-Cross-legged position.

Figure 3-48.-Cross-ankled position.

unnatural, straining grasp will cause excessive muscular tension in the hand, resulting in a tremor, that will also be transmitted to the weapon. The index finger should make contact with the trigger at the place that will best produce a movement straight to the rear. This is usually between the first joint and the tip. The trigger (index) finger must not touch the receiver or rifle.

Once the sights are lined up, apply pressure on the trigger and gradually increase it until the hammer releases and the shot fires. If at any time during this process the sights drift off the target, interrupt the trigger squeeze, but maintain the pressure. When the sight picture is again correct, continue the squeeze until you fire the shot.

When you fire from the standing position, coordination of trigger squeeze and proper aim is critical. The shooter must start and continue his or her squeeze only when the front sight is momentarily at rest or is slowly moving in the smallest area of the bull's-eye. An inexperienced shooter usually tends to "snap shoot" in this position; that is, he or she attempts to complete the trigger action instantly as the front sight moves across the aiming point. This invariably results in jerking the rifle and producing a wild shot.

Squeezing the trigger correctly is not as easy as it may appear; the technique must be fully mastered To assist you in remembering the correct technique, the acronym, BRASS, was developed.

B-BREATH. Proper breathing is essential. It will help you relax, steady your aim, and clear your vision. First, take a normal breath; then release part of it (enough to be comfortable); and hold the remainder. Do not hold your breath for more than 10 seconds before shooting. This may tense your muscles and blur your vision. If you do not shoot during this breathing period, take another normal breath and repeat the procedure.

R-RELAX. You must relax. The more relaxed you are the better your shot will be.

A-AIM. Concentrate on the proper sight alignment of the correct sight picture. Focus your eye on the front sight post (blade).

S-SLACK. Some rifles have a certain amount of slack in the trigger. Take up this slack before starting your squeeze to the rear to fire. The M16 trigger slack is insignificant, and this step is generally omitted when firing that weapon. Knowing your weapon is important here.

S-SQUEEZE. Squeeze the trigger as previously described. If you squeeze it properly, you will not know when the round will fire. This will prevent flinching, caused by anticipation of the shock, or recoil, from the exploding cartridge.

Calling Your Shot

One of the best ways of developing good shooting habits is to learn to call your shot. To do this, you must notice exactly where you aim the sights at the instant you fire the shot and call out immediately where you think the bullet will hit. This takes a lot of concentration. Any shooter who cannot call his or her shot correctly is either blinking or flinching. Shots are called by the "clock method." An example would be "bull's-eye at 4 o'clock"; that is, the shot hit the lower right portion of the bull's-eye.

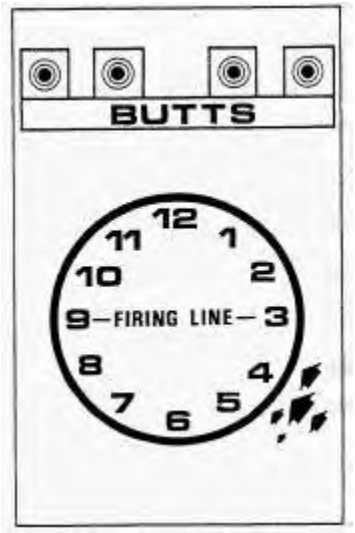


Figure 3-49.-4 o'clock wind.

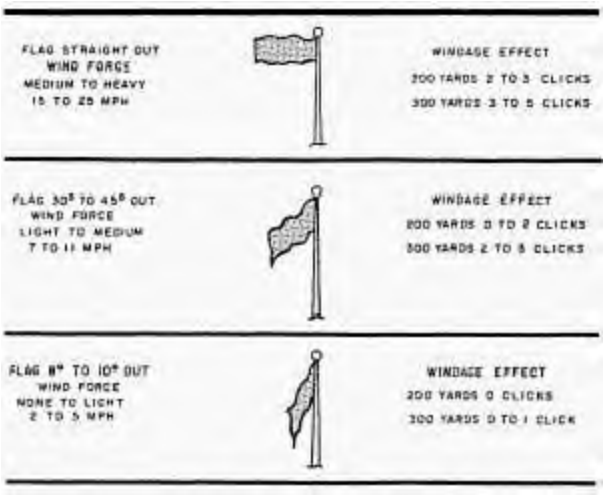


Figure 3-50.-Rlange flag wind reading.

Wind and Wind Effect

One of the most important influences on rifle shooting is wind. Wind affects shooting in two principal ways: it literally blows the bullet off course; and it buffets the shooter, making proper aiming difficult. The effect of the bullet in flight progressively increases as range increases. A wind that will have little or no effect on a bullet at 200 yards will have some effect on one at 300 yards. The effect of the wind on the bullet in flight is compensated for by applying proper windage to the sights.

The effect of the wind on the body of the shooter depends on the relative stability of the various shooting

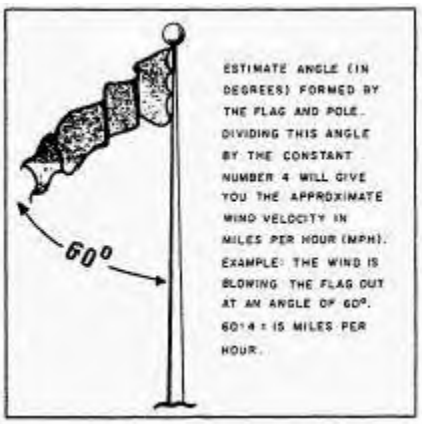

60°
ESTIMATE ANGLE (IN DEGREES) FORMED BY THE FLAG AND POLE. DIVIDING THIS ANGLE BY THE CONSTANT NUMBER 4 WILL GIVE YOU THE APPROXIMATE WIND VELOCITY IN MILES PER HOUR (MPH). EXAMPLE: THE WIND IS BLOWING THE FLAG OUT AT AN ANGLE OF 60°. 60÷4 = 15 MILES PER HOUR.

Figure 3-51.-Estimating wind velocity.

positions. Wind that has no effect on the prone shooter might have some effect on the sitting shooter, a greater effect on the kneeling shooter, and a definite adverse effect on the standing shooter. The effect of the wind on your body can be decreased through the development of the best possible shooting positions.

Onthefringe
HTML by deStihl

Wind Direction and Force

The direction of wind is explained by reference to the face of a clock The firing line is thought of as the center of a big clockface with 12 o'clock toward the target butts and 6 o'clock to the rear. Wind blowing from the right rear is a 4 o'clock wind (fig. 3-49).

Wind Reading Aids

Wind direction and force can be quickly determined by observing the range flags. Figures 3-50 and 3-51 give examples using the range flag. If no flag is visible, use the following observations as a guide in determining wind velocities:

1. Smoke drifts slightly-less than 2 mph wind
2. Wind can be felt lightly-3 to 5 mph wind
3. Tree leaves move constantly-5 to 8 mph wind
4. Wind raises dust and loose paper-8 to 12 mph wind
5. Small trees sway-12 to 15 mph wind

Aiming the Pistol

Aiming the pistol consists of combining proper sight alignment with the correct aiming point to obtain a correct sight picture.

SIGHT ALIGNMENT.- Sight alignment is best defined as placing the front and rear sights into correct alignment with the eye. For a correct sight alignment, you must center the front sight in the rear sight, bringing the top of the front sight exactly level with the top of the rear sight (fig. 3-52). Connect sight alignment is essential for accuracy. It is particularly important with the pistol because of the short sight radius (about 6 1/2 inches). For example, if a 1/10-inch error is made in aligning the front sight in the rear sight, the bullet will miss the point of aim by almost 15 inches at 25 yards of range.

AIMING POINT.- The correct aiming point, when you fire at a bull's-eye target at 25 yards, is a 6 o'clock sight picture. At 15 yards, bring the aiming point well up into the black. When you fire at an "E" type of silhouette target, the aiming point is in the center of the target.

CORRECT SIGHT PICTURE.- A sight picture is the pattern of the pistol sights in relation to the target as you aim the pistol. A correct sight picture combines correct sight alignment and correct aiming point (fig. 3-52). When you are aiming, your eye cannot focus simultaneously on three objects (rear sight, front sight, and bull's-eye) at different ranges. Therefore, the last focus of the eye should always be on the front sight. You will see the front and rear sights sharp and clear, but the bull's-eye will appear to be a bit hazy. If sight alignment

Figure 3-53.-Standing position (pistol).

is correct, the bullet will strike the bull's-eye, even if the sight picture is partially off center but still touches the bull's-eye. Since it is physically impossible to hold the weapon perfectly still, you must learn to apply trigger squeeze and to maintain correct sight alignment while the weapon is moving around the bull's-eye. This movement of the pistol is referred to as the "wobble area." You must accept this wobble area, or movement, and endeavor to keep it to a minimum.

Position

To position yourself properly for firing the pistol, you need to know how to grip the pistol correctly and how to position your body in relation to the target. Only the standing position will be covered in this section, because it is the one used in qualification. However, the pistol can also be fired accurately from the kneeling, crouch, and prone positions. The pistol may be gripped with either a one-hand grip or a two-hand grip.

STANDING POSITION ONE-HAND GRIP.- To assume the standing position using the one-hand grip (fig. 3-53), face the target squarely and then execute an

Figure 3-54.-Gripping the pistol (one hand).

exaggerated half left face (about 50 degrees). Spread your feet about shoulder width apart until you stand comfortably. Your legs should be straight, but not stiff, and your hips should be level. Extend the index finger of your shooting hand and point it at the target. Adjust your stance until your finger points naturally, without muscle tension, at the center of the target. Pick the pistol up with your other hand and place it in your shooting hand. The mainspring housing should rest firmly in your palm with the grip safety pressed into the Y, formed between the thumb and forefinger. Hold your hand as high as possible on the receiver without squeezing the flesh between the hammer and grip safety.

Grip the receiver firmly with the hand and fingers.

Wrap the three lower fingers around the receiver, and place the trigger finger inside the trigger guard. Hold your thumb up and along the side of the pistol with enough pressure to steady the pistol and to equalize any pressure from the other side by the palm and forefinger (fig. 3-54). Once a firm grip is obtained, maintaining the same degree of firmness throughout firing is important. A change in your grip will change the location of the shot group on the target. A tight grip tends to cause the bullet to strike low and a loose grip to strike high. Keep your trigger finger away from the receiver.

With a proper grip on the pistol, the muscles of your arm should be firm, but not rigid. Your arm should be straight with your wrist and elbow locked. This will prevent excessive up-and-down movement of the weapon. When the weapon is fired, the recoil will be absorbed through the arm to the shoulder. If you are in the correct position, the pistol will return to approximately the same sight picture after each shot.

Figure 3-55.-Standing position (pistol), two-handed grip.

STANDING POSITION TWO-HANDED GRIP.- In this position (fig. 3-55), you face the target squarely with your feet placed comfortably about shoulder width apart. Keep your legs straight without stiffness and your hips level and slightly forward. Relax the muscles of your diaphragm, and make no effort to hold in your abdomen.

Grasp the pistol in the same manner as if you were firing one-handed. Next, with your free hand extended forward, palm up, place the butt of the weapon into your extended palm. Place the little finger of your shooting hand between the index and middle finger of your other hand. The thumb of your free hand is straight up alongside the pistol grip with the thumb of your shooting hand locked over the top of the other thumb. Bring the last three fingers of your other hand up and over the back of your shooting hand, locking the weapon firmly in both hands (fig. 3-56). Bring the weapon onto the center of the target by shifting your feet.

MISCELLANEOUS.- In both the one-handed and two-handed positions, you position your head so that

Figure 3-56.-Two-handed grip.

you are looking straight out through your shooting eye. Keep your shooting arm fully extended. In the one-handed position, the shoulder of your shooting hand should be slightly raised. Turn your head in order to see the target through the sights. The ease with which your head can be turned is another determining factor in how far you must turn to the right or left. There should be no strain on the neck muscles with your head held upright. The whole position, with the exception of your shooting arm, is one which can be maintained with the least muscular effort. Your body is balanced rather than held in position. The muscles of your shooting arm and shoulder should be tightened somewhat to sustain the weight of the pistol and to maintain a correct grip. Excessive tightening of the muscles of your shooting arm and hand should be avoided. The tension in the muscles of your shooting arm and hand should be maintained after the hammer falls. This will assist in getting off your second shot quicker.

Because of the differences in the body structure of individuals, the standing position will vary slightly. But regardless, your position should be relaxed and comfortable. The pistol should point at the center of the target or you will be tense while firing. If you are tense, there will be excessive muzzle movement.

Onthefringe
HTML by deStihl

FIRING TECHNIQUES-PISTOL

Good pistol shooting, like rifle shooting, depends upon your ability to master and apply certain basic marksmanship principles. You must practice these principles-aiming, position, and trigger squeeze-often.

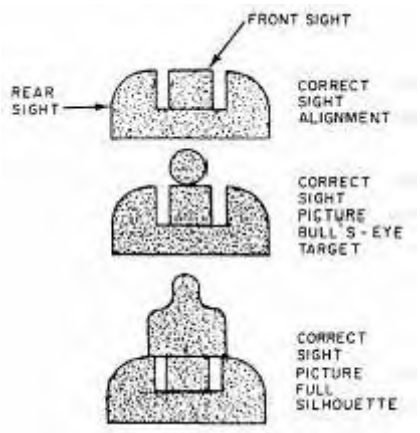


Figure 3-52.-Correct sight alignment and sight picture.

Apply these fundamentals of marksmanship! If your life ever depends on how well and accurately you shoot the pistol, you can be the one who walks away alive.

Onthefringe
HTML by deStihl

Trigger Squeeze

Poor shooting is most often caused by disturbing your aim as the bullet is leaving the barrel. This is usually the result of jerking the trigger, or flinching. The trigger does not have to be jerked violently to spoil your aim; even a slight off-center pressure of your finger while squeezing the trigger is enough to move the strike of the bullet several inches. FLINCHING is a subconscious reflex caused by anticipating the recoil from firing. JERKING results from attempting to fire the pistol at the precise time that you align the sights with the target. Both flinching and jerking will cause the bullet to strike the lower left section of the target. An attempt to correct flinching and jerking by tightening the large muscle in the heel of the hand may cause heeling. HEELING causes the bullet to strike the target high and to the right. You can correct all these shooting errors by understanding and using the correct trigger squeeze. Improper trigger squeeze will cause more misses on the target than any other single step of preparatory marksmanship training.

You obtain correct trigger squeeze by applying a uniformly increasing pressure on the trigger straight to the rear without disturbing the sight alignment until the pistol fires. The trigger slack, or free play, is taken up first, and the correct squeeze continues steadily until the hammer falls. If the trigger is squeezed properly, you will not know when the hammer will fall. This is the best way to prevent jerking, flinching, and heeling.

To assist you in squeezing the trigger properly, use the acronym BRASS as you did with the rifle. You must also learn to call your shots. If you cannot call your shots correctly, you are not concentrating properly on sight alignment and trigger squeeze.

TECHNIQUE OF FIRE

The technique of fire is the application and control of the combined fire of a fire unit. The rest of this chapter concerns the technique of fire for rifle and machine gun units.

FIRE CHARACTERISTICS

The fire of rifles and machine guns has the following characteristics: trajectory, danger space, burst of fire, dispersion, shot patterns, and beaten zone.

The TRAJECTORY is the curved path of the bullet in its flight through the air. Trajectory is influenced by three forces: velocity of the projectile, gravity, and air resistance. The farther the bullet travels, the greater the curvature of its path becomes. The highest point on the trajectory (called the maximum ordinate) is a point at

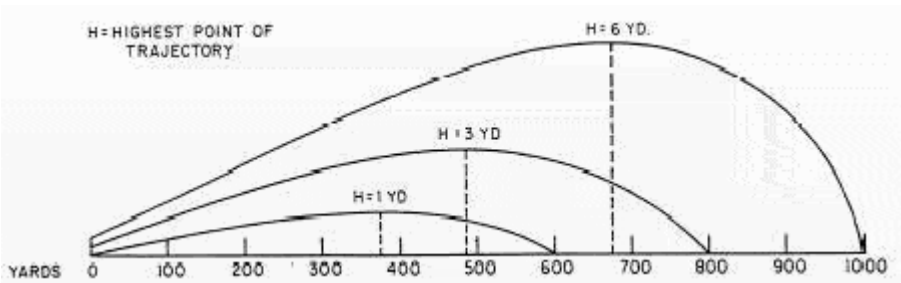


Figure 3-57.-Projector of 7.62-mm ammunition showing maximum ordinate (H) of trajectory.

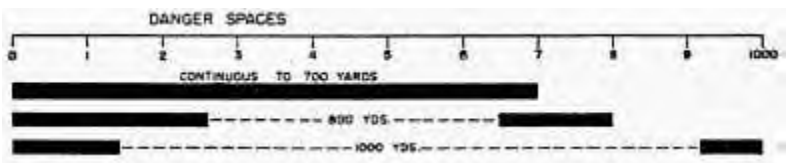


Figure 3-58.-Danger space at 1,000-yard range.

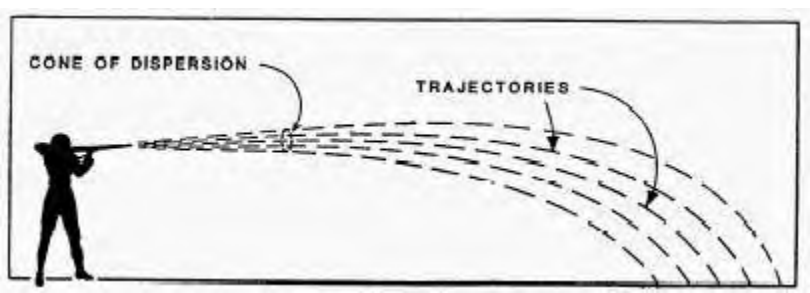


Figure 3-59.-Cone of dispersion, or cone of fire.

approximately two-thirds of the range from the weapon to the target (fig. 3-57). DANGER SPACE is

the area between the weapon and the point of impact in which the bullet does not rise above the average height of a man (presumed to be 68 inches). At ranges up to 750 yards, a rifle bullet fired over level or uniformly sloping ground does not rise above this height; therefore, for such ranges, the danger space is continuous. At ranges greater than 750 yards, a portion of the trajectory is above this height; therefore, the danger space is not continuous but exists for a variable distance in front of the muzzle and in front of the point of impact. In the latter case, the danger space begins again when the bullet comes within 68 inches of the ground. The length of the two danger space zones is dependent upon the range, as shown in figure 3-58. A number of shots fired automatically with a single pressure on the trigger is called a BURST OF FIRE. For normal ground targets, the number of rounds in a burst is usually from four to ten.

When several bullets are fired from a rifle or machine gun held in a fixed position, there is a slight variation in the trajectories. The causes of these differences are in the powder charge, the weight of the bullet, atmospheric and wind conditions, and vibration of the weapon. These variations are known as DISPERSION. The several dispersions, plotted in profile, form a cone with its apex to the muzzle of the weapon; this is known as the cone of dispersion, or the cone of fire (fig. 3-59).

The impact pattern of the cone of dispersion on a vertical target (which would be oval in shape) is called the VERTICAL SHOT PATTERN. (See fig. 3-60.) The

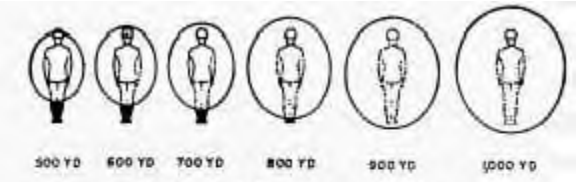


Figure 3-60.–Vertical shot pattern at various ranges.

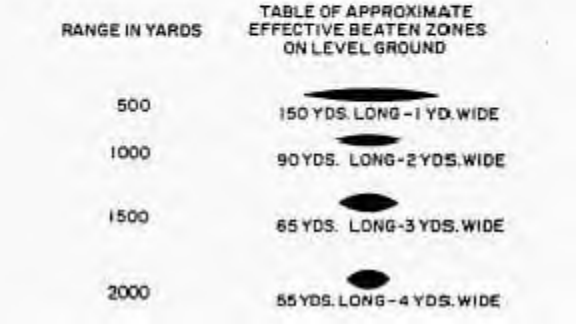

RANGE IN YARDS
TABLE OF APPROXIMATE EFFECTIVE BEATEN ZONES ON LEVEL GROUND
500
150 YDS. LONG - 1 YD. WIDE
1000
90 YDS. LONG - 2 YDS. WIDE
1500
65 YDS. LONG - 3 YDS. WIDE
2000
55 YDS. LONG - 4 YDS. WIDE

Figure 3-61.-Horizontal shot patterns at various ranges.

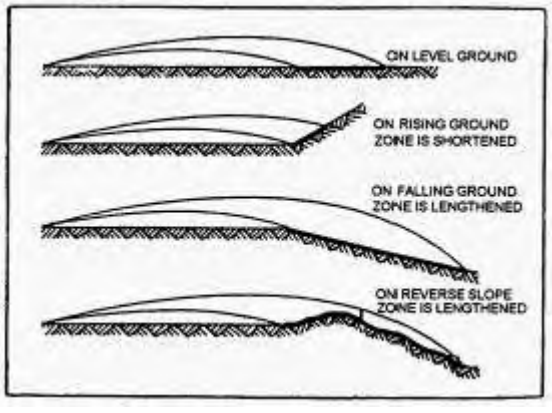


Figure 3-62.-Effect of ground slopes on beaten zone.

impact pattern on a horizontal target, which would be a long, narrow ellipse, is known as the HORIZONTAL SHOT PATTERN or BEATEN ZONE. (See fig. 3-61.) The BEATEN ZONE is the area of the ground the bullets strike. The size and shape of the beaten zone depend upon the range and slope of the ground, as shown in figure 3-62.

Onthefringe
HTML by deStihl

CLASSES OF FIRE

Fire is classified with respect to the target, the ground, and the gun. (See figs. 3-63 through 3-65.)

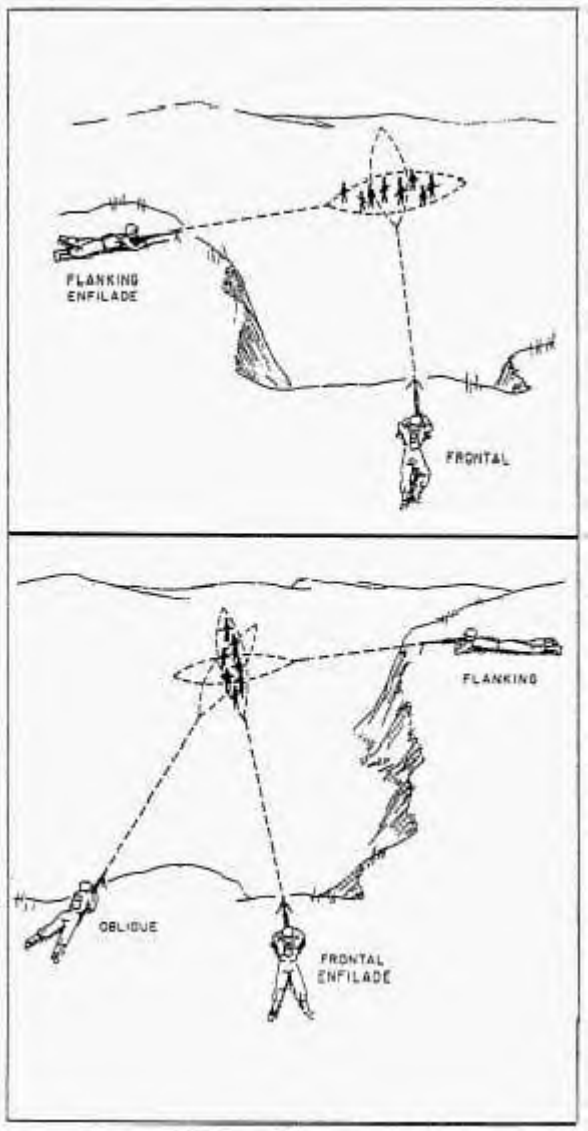


Figure 3-63.-Fire in respect to the target.

Fire with respect to the target may be FRONTAL (delivered perpendicular to the enemy front), FLANKING (delivered perpendicular to the enemy flank), or ENFILADE (delivered so the long axis of the beaten zone corresponds with the long axis of the target). ENFILADE fire may be either frontal or flanking, depending on the direction of the long axis of the target. Since it makes maximum use of the beaten zone in relation to the shape of the target, enfilade fire is the most effective. Fire delivered from a direction that is neither frontal nor flanking is called OBLIQUE fire.

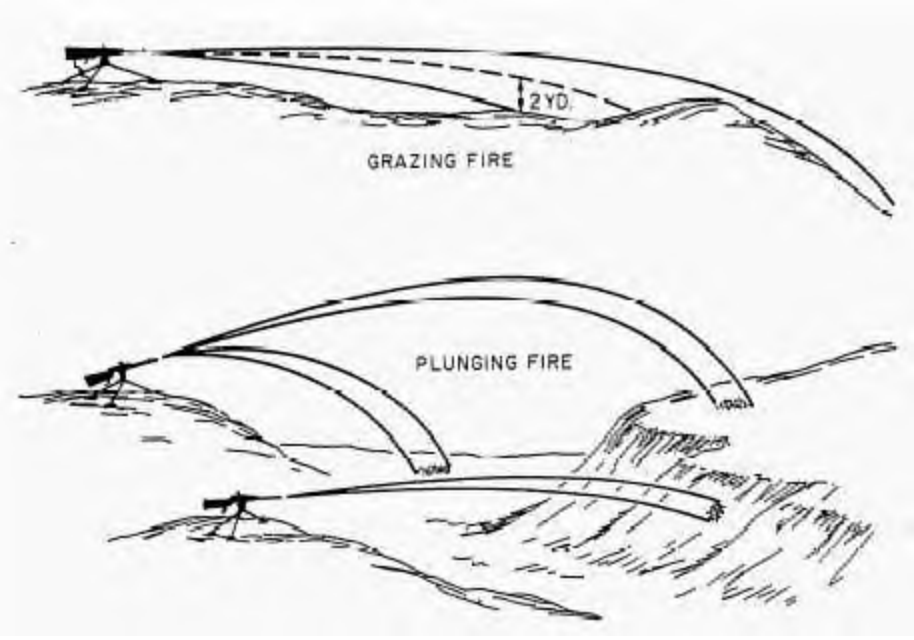


Figure 3-64.-Fire in respect to the ground.

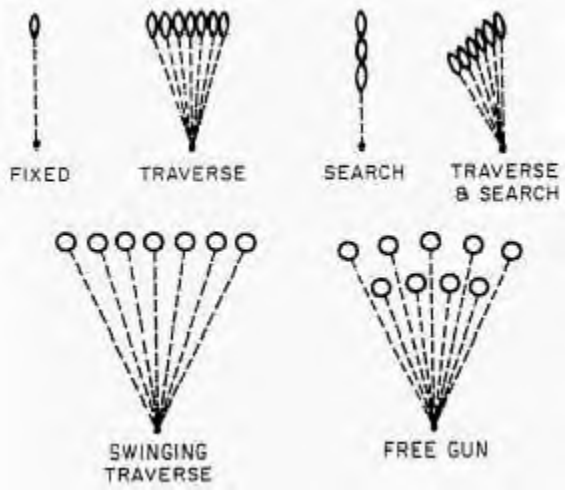


Figure 3-65.-Fire in respect to the gun.

Fire with respect to the ground can be classified as grazing, plunging, or overhead.

- GRAZING fire has a trajectory not higher than 68 inches above the ground. Grazing fire can exist for 750 yards over level or uniformly sloping ground.
- PLUNGING fire strikes the ground from above at a considerable angle. The danger space of plunging fire is practically limited to the beaten zone.
- OVERHEAD fire is delivered over the heads of friendly troops. It must usually be high trajectory, plunging fire. Fire with respect to the machine gun maybe fixed fire, searching fire, traversing fire, or combined traversing and searching fire, swinging traverse fire, and free gunfire.
- FIXED FIRE is delivered against targets that only require a single aiming point. The depth of the beaten zone must be large enough to include the target. Fixed fire is continuous as long as any portion of the target remains in the zone of fire.
- SEARCHING FIRE is distributed in depth-by successive changes in the elevation of the gun.

Searching fire is used against targets too deep to be included in the beaten zone of fixed fire. A burst of free is delivered after each change in elevation.

- TRAVERSING FIRE is distributed in width by successive changes in the horizontal direction of the gun. A burst of fire is delivered after each change or during the swing.
- COMBINED TRAVERSING AND SEARCH-ING FIRE is distributed both in width and depth and by changes in both elevation and horizontal direction.
- SWINGING TRAVERSE FIRE is delivered against targets too wide to cover with the traversing handwheel. Also, it is used against targets that are moving so rapidly across the front of the gunner that he or she cannot maintain effective fire while using the traversing handwheel.

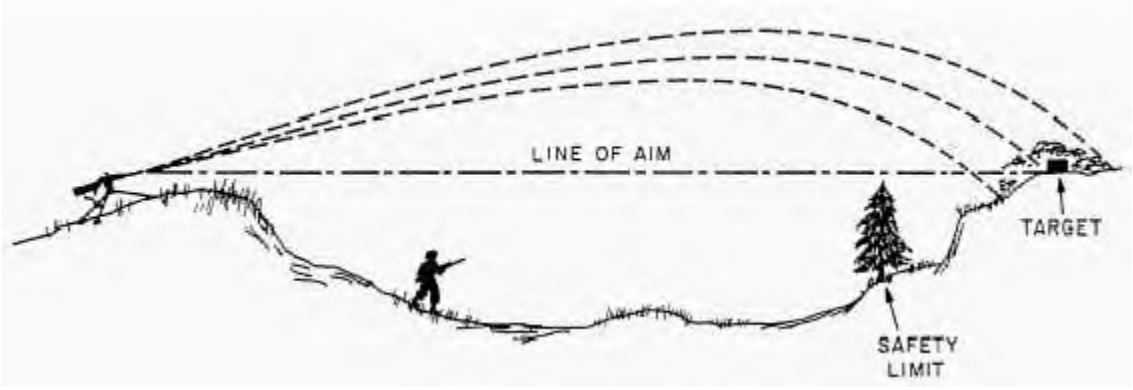


Figure 3-66.-Delivering of overhead fire.

- FREE GUNFIRE is delivered from the tripod mount against a target requiring rapid, major changes in direction and elevation that cannot be made with the traversing and elevating mechanism. Free gunfire can also be used from a vehicular mount against a target that cannot be adequately covered by selecting a series of aiming points.

All types of fire can be delivered with biped-, tripod-, or vehicular-mounted guns except as follows: swinging traverse fire cannot be delivered with bipod-or vehicular-mounted guns; free gunfire cannot be delivered with bipod-mounted guns.

Onthefringe
HTML by deStihl

OVERHEAD FIRE

Overhead fire with the rifle is safe when the ground affords protection to friendly troops or when the troops are far enough below the line of fire (fig. 3-66). Whether or not overhead fire should be used in any particular case is a matter of judgment.

A machine gun on a tripod is capable of delivering accurate overhead fire because of the small, uniform dispersion of the cone of fire. In the attack, the use of overhead fire permits the machine gun to support the advance of the rifle units. To permit overhead fire on any target, pass the cone of fire over the heads of friendly troops by a certain distance, called the MINIMUM CLEARANCE. Two rules are prescribed by which the minimum clearance may be determined: the GUNNER'S RULE for ranges up to 900 yards and the LEADER'S RULE for ranges greater than 900 yards. Overhead fire will not be delivered by use of these rules at ranges less than 400 yards or greater than 1,800 yards.

The steps in using the GUNNER'S RULE are as follows:

1. Lay the gun on the target with the correct sight setting to hit the target.
2. Without disturbing the lay of the gun, set the rear sight at 1,500 yards.
3. Look through the sights and note the point where this new line of aim strikes the ground. If this point is beyond the feet of friendly troops, you may deliver overhead fire safely until the troops reach this point. It is not safe to fire when they pass this point.

The steps in the application of the LEADER'S RULE are as follows:

1. Select a point on the ground to which you believe friendly troops can advance with safety.
2. Determine the range to this point by the most accurate means available.
3. Lay the gun on the target with the correct sight setting to hit the target.
4. Set the rear sight at 1,500 yards or at the estimated range to the point plus 600 yards, whichever is greater, without disturbing the lay of the gun. Under no condition should the sight setting be less than 1,500 yards.
5. Note the point where the new line of aim strikes the ground. If it strikes at the selected point, that point marks the limit of safety.
6. If the new line of aim strikes the ground short of the selected point, troops can advance safely to the point where the line of aim strikes the ground and to an unknown point beyond. If you desire to fire after friendly troops advance farther than the point where the line of aim strikes the ground, you must determine this farther point by testing new points until the line of aim and the selected point coincide.

RANGE ESTIMATION

In combat, you seldom know ranges in advance. To bring effective fire to bear on the enemy, train the riflemen and machine gunners to estimate ranges quickly and accurately. Ranges are estimated either by eye or by observation of fire.

ESITMATION BY EYE is the usual method of estimating range in combat. You accomplish this by mentally applying a unit of measure to the distance to the target. This unit is normally 100 yards. You need to be familiar with the appearance of this unit of measure at various distances and over varying types of terrain to be able to use this method effectively when estimating ranges by eye.

Eye estimation is difficult to apply for ranges of more than 500 yards. When the range exceeds 500 yards, estimate a point halfway to the target; then, double the estimate.

When much of the ground between the observer and the target is hidden, eye estimation is difficult. In some cases, you may overcome this difficulty by the use of a MENTAL ARC. Move your gaze in a mental arc to the right or left of the target. Find a prominent object at about the same range as the target, and use it to estimate this range.

When none of the previously described methods are feasible, you may possibly estimate the range by the appearance of objects. Conditions of light, atmosphere, color, and terrain affect the apparent distance of objects. Accurate estimation of ranges by eye requires considerable practice over all types of terrain and under all conditions of visibility. The use of known distance ranges, marked off in 100-yard intervals, is recommended for initial training.

Range estimation of OBSERVATION OF FIRE is determined by observing the flight of tracer bullets or by observing the points where projectiles strike. Tracer bullets leave a red trail for about 950 yards of their flight. The shooter first estimates the range by eye to determine the initial sight setting. Thereafter, by watching the strike of the tracer bullets, he or she corrects the sight setting to hit the target.

When you are in suitable terrain, watch a projectile strike the ground. If it kicks up dust or other visible material, follow the same procedure as you would with tracers.

FIRE DISCIPLINE

Fire discipline is the state of order, coolness, efficiency, and the obedience existing among troops in a fire fight. It implies the careful observance of instructions in the use of weapons in combat and the execution of the exact orders of the leader. To have effective fire discipline, control it by having leaders. The responsibility for fire discipline in the platoon rests with the platoon commander, assisted by his or her subordinates. The squad leader maintains discipline in the squad. There is a tendency for untrained machine gunners and riflemen to open fire at night when hearing noises and on seeing imaginary targets. This is dangerous and wastes ammunition; but more important, it gives the position away. Also, the enemy could stand off and send a couple of scouts into fire several shots or to throw some grenades at the defensive positions to draw responsive fire. If the fire discipline is poor, the defenders return the fire. The enemy can then plot the locations of the defense positions, plan an attack to avoid strong points, or direct supporting fire accurately on the defenders. The squad leader is responsible for controlling these tendencies in his or her squad.

FIRE CONTROL

Fire control includes all operations connected with the preparation and actual application of fire to a target.

Fire control implies the following abilities of the leader:

- To have his or her unit open fire the instant he or she desires
- To adjust the fire of his or her weapons on the target
- To shift fire from one target to another
- To regulate the rate of fire
- To cease firing at will

Lack of proper fire control causes the loss of the surprise effect, premature disclosure of the position, misapplication of fire on unimportant targets, and waste of ammunition. DISCIPLINE and CORRECT TECHNICAL TRAINING are fundamental in ensuring fire control.

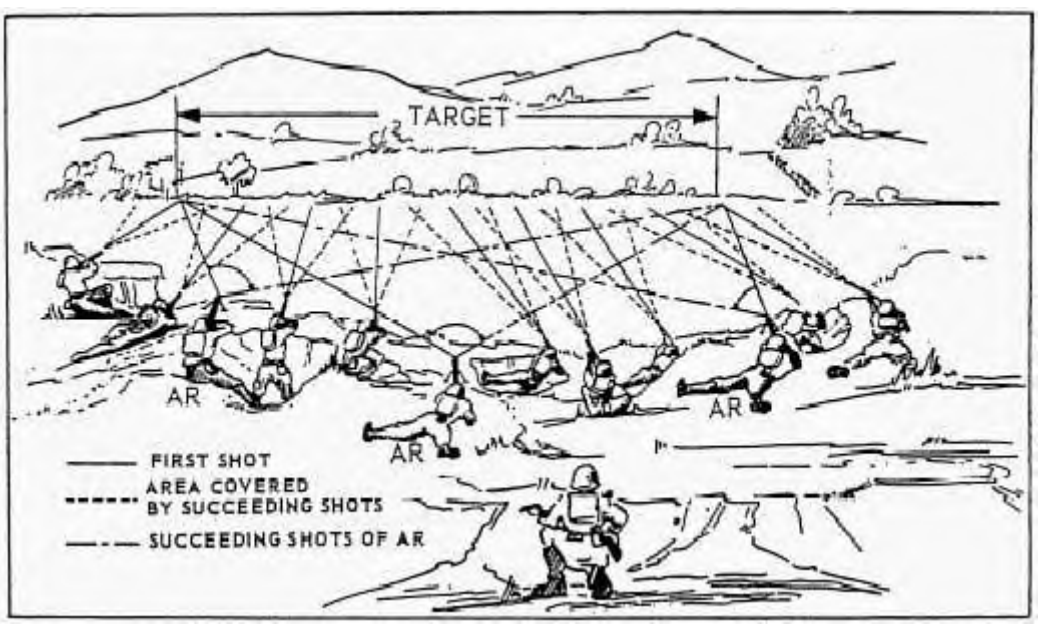


Figure 3-67-Fire distribution by individuals of the rifle squad.

The platoon commander's order to his or her section of squad leaders assigns a mission to each section or squad; gives the firing position area each squad will occupy and the targets it will engage; or the sector of fire it will cover. In addition, he or she frequently prescribes the technique to use in engaging targets. The section or squad leader's order prescribes the location for each weapon, the targets, and the technique to be used. In the absence of orders from the next higher commander, the platoon, section, or squad leaders regulate opening fire and lifting, shifting, and rate of fire.

FIRE DISTRIBUTION

The distribution of fire, to be effective, must be over the entire target. Improper distribution results in gaps between zones and allows apart of the enemy to escape, to advance, or to use their weapons without effective opposition.

Rifle Fire

The fire of a rifle unit is either concentrated or distributed. The nature of the target, as given in the fire order, will determine in each mind of the rifleman the type of fire to use.

- CONCENTRATED FIRE is directed at a single point. Enemy machine guns, bunkers, and heavy weapons are examples of suitable targets for concentrated fire.
- DISTRIBUTED FIRE is fire distributed in width for the purpose of keeping all parts of a larger-than-point target under effective fire. Each rifleman fires his or her first shot at that portion of the target corresponding generally to his or her position in the squad. He or she then distributes his or her succeeding shots over that part of the target extending a few yards right and left of the point of aim for his or her first shot. The width of target he or she will cover will be the maximum on which he or she can deliver accurate fire without changing his or her position, as shown in figure 3-67.

In PLATOON FIRING, unless otherwise ordered, each squad completely covers the target designated for the platoon. This enables the leader to shift part of his or her fire to a new target or to remove a squad from the line without leaving a portion of the target not under fire. If the platoon leader does not desire each squad to cover the entire platoon target, he or she assigns definite sectors of fire to each squad.

In DETERMINING EXTENT OF TARGET, it is difficult or impossible to pick out visually each individual enemy in either a dug-in or camouflaged position. A muzzle blast may show the location of a few individual positions, but many positions will be too well camouflaged to see. However, engaging the whole target is imperative in order to inflict decisive casualties and neutralize the fire of the enemy. Pinning down only the obvious positions and allowing the remaining enemy to fire unmolested does little good.

Under these circumstances, to apply the proper fire distribution effectively, the unit leader must first determine the locations of the flanks of the enemy. The flanks may be obvious and easy to see. They may be limited by natural features, such as woods, a cliff, or a gully; or they may be approximately located from the direction and sound of the firing of the enemy.

After determining the flanks of the enemy, the squad leader must designate the portion of the target, whether in part or in its entirety, that he or she wishes his or her squad to engage. This can best be done by using tracers fired on either flank. The squad then opens fire using the normal fire distribution.

Machine Gun Fire

In fire control terminology, target width is designated in mils. A MIL is a unit of angular measurement; there are 1,600 mils in 90 degrees. Gun angles of train and elevation are measured in roils. A target width of 50 mils has no relationship to the actual width of the target. This expression simply means

that moving the gun through a train (horizontal angle) of 50 mils will cover the entire target front. Thus, a wide target could have a target width of 50 mils at long range, while a narrow target would have the same width at much shorter range.

No fixed rule about the maximum width of a target that a single gun may profitably engage can be given. But preferably targets for light machine guns should be less than 50 mils in width. The section (two guns) is the machine gun fire unit. Whenever practical, both guns cover the same target area, although an occasion may arise to use single guns profitably. Assigning both guns to a single target area ensures continuous fire should either gun be put out of action, provides a greater volume of fire on the target, and reduces the time required to cover the target.

Targets having a width or depth no greater than the beaten zone of the weapon engaging them are considered POINT targets. You should engage point

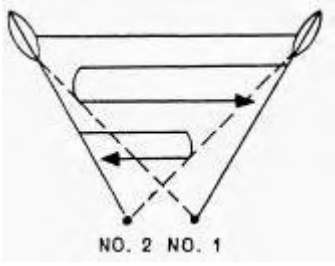


Figure 3-68.-Traversing method by section. Both flanks are visible to the gunners. Target is less than 50 mils in width.

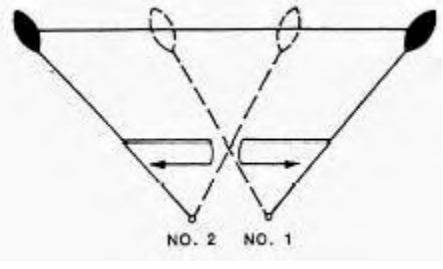


Figure 3-69.-Traversing method by section. Targets 50 MilS or more in width. (Each gun assigned a portion of the target.)

targets with fixed fire. The command for such fire is FIXED. Gun crews are trained to follow any movement or change in formation made by the enemy after the initial burst of fire.

When sections engage frontal targets that are less than 50 mils wide and less than the length of the beaten zone in depth, the leader uses the normal traversing method. Each gun lays just outside its corresponding target flank and traverses across the target front to a point just outside the opposite target flank (fig. 3-68). The command for this type of fire is TRAVERSE.

When the target measures 50 mils or more in width and is less than the length of the beaten zone in depth, the leader assigns a portion of the target to one gun and the remainder to the other. Each gun lays on the outside flank of its assigned portion and traverses back and forth across the portion assigned. (See fig. 3-69.) The command would be, for example: No. 1 gun, RIGHT HALF; No. 2 gun, LEFT HALF; TRAVERSE.

If the flanks of the target cannot be seen, the leader should order each gun to traverse so many roils from a point between the flanks. The designated number of roils should be large enough for each gun to traverse to a point beyond the suspected position of the flank.

Searching fire covers targets deeper than the length of the beaten zone. If the target is stationary, has limited mobility, or is moving slowly toward you, and if the ends are visible, No. l gun lays on the near end and searches down. If the estimated depth of the target is 200 yards or less, the leader announces the range for both guns to the middle of the target. If the estimated depth of the target is more than 200 yards, he or she announces the range to the near end for No. 1 gun and the range to the far end for No. 2. The command for this type of fire is SEARCH.

If the target is moving rapidly toward the guns, both guns lay on the near end with the range to that point and search up. If the target is moving rapidly away from the guns, both guns lay on the far end and search down. The distribution element of the command for covering a rapidly approaching or receding target is ALL GUNS, NEAR (FAR) END, SEARCH.

Onthefringe
HTML by deStihl

FIRE COMMANDS

The leader of a fire unit, after making the decision to fire on a target, must give instructions about how to engage the target. He or she gives these instructions in the form of a fire command. A fire command for machine guns contains four basic elements: the ALERT, the TARGET, the DESIGNATION, the METHOD OF FIRE, and the command to OPEN FIRE. Examples of the four elements are given below.

1. The alert designates the gun crew that is to fire and alerts them to receive the command. The alert includes the following:

   Gun crew to fire-FIRST SECTION Target alert-FIRE MISSION, with STATION-ARY TARGET, MOVING TARGET, or other additional necessary information

2. The leader gives the target designation as follows:

   Direction-FRONT Target description-COLUMN OF TROOPS Range-FIVE FIVE ZERO (yd)

3. He or she designates the method of engaging by naming the method, such as TRAVERSE. The rate of fire is a part of the method of fire. The leader states the amount of fire to place on the target, such as 75 ROUNDS PER MINUTE or MEDIUM RATE.
4. The command to open fire is COMMENCE FIRING or FIRE. When a large volume of sudden surprise fire is desired, the leader may preface the command with the preparatory command, On My Command. The unit leader then waits until all gunners have located the target and aimed before giving the command of execution.

Fire control will also include any necessary adjustment corrections for machine guns, as RIGHT TWO ZERO MILS, ADD THREE MILS.

A fire command for riflemen and automatic riflemen contains six basic elements: the alert, the direction, the target description, the range, the target assignment, and the fire control.

The ALERT brings the unit to a state of readiness to receive further information. If all men or women in the unit are not to fire, the command also designates those who are to fire. If all men or women are to fire, the command for the alert is SQUAD. If only certain men or women are to fire, the names of the men or women are stated after the word SQUAD.

The DIRECTION element tells the riflemen the target direction. It may be given orally, such as RIGHT FRONT or by pointing or firing in the direction of the target. If the target is not readily visible, a reference point may be used. A reference point is some prominent terrain feature, either natural or artificial, to use to make the target easier to locate. The reference point should be well defined and easily recognized. If possible, the point should be on a line with, and beyond, the target because, in this position, it is a more accurate reference for a number of men or women firing from separate positions.

For the sake of brevity, the leader designates the reference point by the single word REFERENCE, followed by a description of the point, such as FARM HOUSE ON HORIZON. He or she should give the distance right or left. He or she may give this distance in FINGER MEASUREMENTS in which the method to use is as follows:

1. Extend your arm full length with the palm up. Point the appropriate number of fingers, beginning with the index finger, vertically to the reference point. (See fig. 3-70.)
2. Close one eye, sight along the outside of the index finger so one edge is on the reference point. Use the other edge of the appropriate number of fingers (one, two, three, or four) to locate the hidden target. When this method is used, the command will sound like-FROM REFERENCE POINT MOVE LEFT THREE FINGERS FIRE WHEN READY TARGET DESCRIPTION should be brief and accurate. A target maybe POINT, such as a machine gun, LINEAR, such as a line of skirmishers, or AREA, such as men or women dispersed through a clump of woods. RANGE may be announced orally or indicated by arm-and-hand signals.

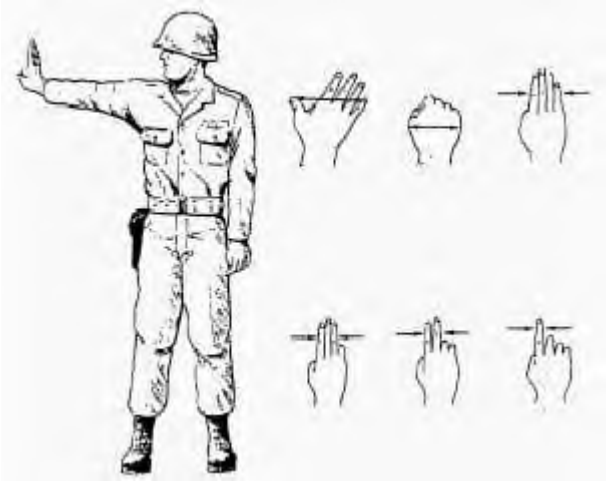


Figure 3-70.-Measurement of angles by hand and fingers.

TARGET ASSIGNMENT designates who is to fire at the target. If the whole unit has been alerted and if the leader desires that they all fire, then target assignments may be eliminated.

The FIRE CONTROL element normally consists of the command, COMMENCE FIRING or FIRE, plus any designation the leader desires about rate of fire, such as QUICK FIRE, FIRE FASTER, FIRE SLOWER. The following is an example of a simple fire command:

SQUAD

RIGHT FRONT

SNIPER ON ROOF OF FARMHOUSE

TWO HUNDRED

JONES AND SMITH

COMMENCE FIRING

An example of a fire command using a reference point and finger measurements is the following:

LEFT FRONT

Reference: WHITE CHURCH SPIRE ON HORIZON, RIGHT THREE FINGERS

Target: MACHINE GUN IN BUSHES THREE HUNDRED TEAMS ONE AND TWO COMMENCE FIRING

APPLICATION OF FIRE

Application of fire consists of placing the fire of a unit on the desired target at the proper time and the control of the fire after that. Accurately controlled fire on the enemy has both a physical (casualty producing) and a morale effect.

Onthefringe
HTML by deStihl

CHAPTER 4

COMBAT MANEUVERS, FORMATIONS, PATROLS, AND AMBUSHES

In this chapter, moving through enemy controlled terrain either on your own or in small groups is discussed. Usually in such instances, your movement must not be seen or heard. When this cannot be avoided, you must at least be able to move quickly with a minimum of exposure. Actions, such as moving, rushing, hitting the deck crawling, moving silently, and taking action under flares, are also discussed in this chapter.

MOVEMENT

When you move about, it is best to travel a short distance quickly; then stop, listen, observe, and move on again. Before moving from the concealment or cover of one position, always pick out your next position. In addition, look for an alternate new position in case you are unable to reach your first choice. Observe the area carefully for enemy activity; then select the best available routes to the new location. Take advantage of darkness, fog, smoke, or haze to assist in concealing your movement.

Change direction from time to time when moving through tall grass. When you move in a straight line, the grass waves with an unnatural motion that could attract attention. The best time to move is when the wind is blowing the grass.

When stopping between movements, you should observe briefly whether birds or animals are alarmed. Their flight or movement may attract the attention of the enemy, or they may provide a clue as to the location of the enemy.

Take advantage of distractions caused by noises, such as bombing, shelling, rifle fire, or vehicle movement.

Travel across roads, trails, and rivers where the most cover and concealment exist. Search for a large culvert, a low spot, or a curve; keep in mind that these are the most likely spots for enemy mines and booby traps. Avoid steep slopes and areas with loose stones or gravel. Also, avoid ridges or clearings where you would make a good silhouette.

RUSHING

Rushing is the fastest means of moving from one position to another. It should always be used when you are moving but not concealed. Generally, you should start rushing from the prone position (fig. 4-1, view 1). Slowly move your head to select the new position to which you will move (fig. 4-1, view 2). Avoid raising your head too high, and always look around the side of an object rather than over the top, so you do not make a sharp silhouette. Slowly lower your head; then draw your arms in close to your body; keep your elbows down, and pull your right leg forward (fig. 4-1, view 3). With one movement, raise your body by straightening your arms (fig. 4-1, view 4). Spring to your feet quickly, step off with your left foot (fig. 4-1, view 5), and run to the new location by the quickest and shortest route. Keep low and use all available cover (fig. 4-1, view 6).

HITTING THE DECK

After reaching your new position at the end of the rush, you must quickly get into the prone position

again. Getting into the prone position from rushing is known as hitting the deck or dirt. To do this, plant your feet firmly, about 18 inches apart, and while sliding your hand to the heel of the rifle butt (fig. 4-1, view 7), drop to your knees (fig. 4-1, view 8). Fall forward, breaking your fall with the butt of your rifle (fig. 4-1, view 9) unless you are armed with the M16; then, after shifting your weight to your left side, bring your rifle forward (fig. 4-1, view 10). Place the butt of the rifle in the hollow of your shoulder; then roll into a firing position (fig. 4-1, view 11). If your weapon has a stock made of plastic or fiber glass, such as the M16, you should not use it to break your fall. Instead, grasp your rifle in one hand and break your fall with the other.

Lie as flat as possible. If you think you were observed, move to the right or left, preferably where there is cover and concealment.

CRAWLING

There are times when you must move with your body close to the ground to avoid enemy fire or

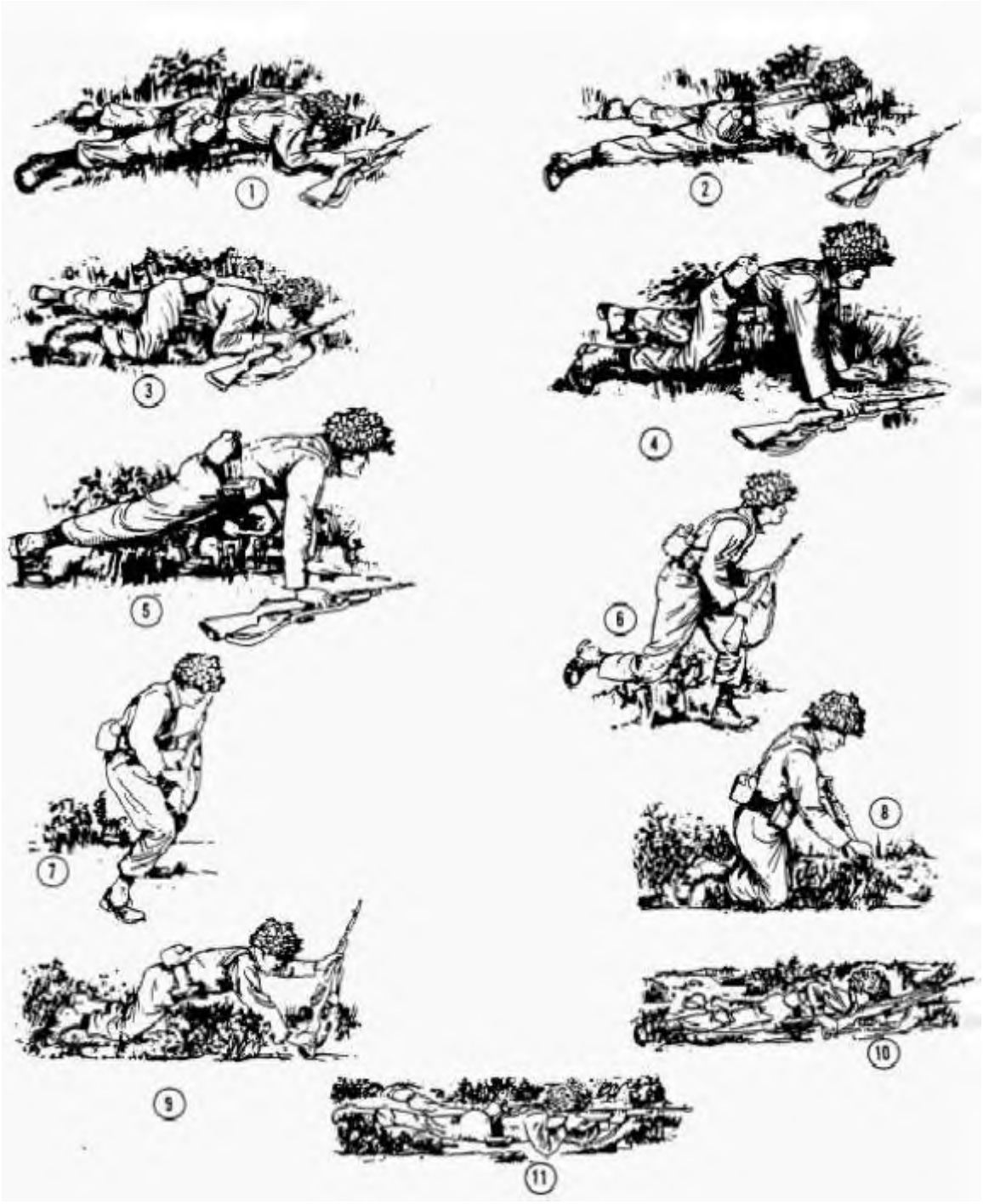


Figure 4-1.-Rushing and hitting the deck or dirt.

observation. There are two ways of doing this, the LOW CRAWL and the HIGH CRAWL. It is up to you to decide which method is best suited to the conditions of visibility, cover and concealment, and the speed required.

Use the LOW CRAWL method when cover and concealment are scarce, when visibility permits good enemy observation, and when speed is not essential. Keep your body as flat as possible against the ground. Grasp your rifle sling near the upper sling swivel. Allow

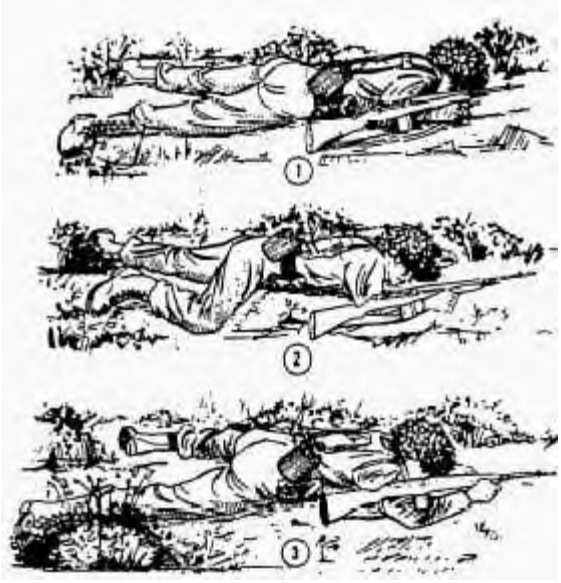


Figure 4-2.-The low crawl.

Figure 4-3.-The high crawl.

the balance to rest on your forearm, and let the butt drag along the ground. Keep the muzzle and operating rod clear of the ground (fig. 4-2, view 1).

To start forward, push your arms ahead and pull your fight leg forward (fig. 4-2, view 2). Move by pulling with your free arm and pushing with your right leg. Every so often, change your pushing leg to avoid getting tired (fig. 4-2, view 3).

Use the HIGH CRAWL method when cover and concealment are available, when poor visibility reduces enemy observation, and when more speed is needed. Keep your body free of the ground and rest your weight on your forearms and lower legs. Cradle the rifle in your arms, keeping the muzzle off the ground. Keep your knees well behind your buttocks so your rump remains low. Move forward by alternately advancing your right elbow and left knee and then your left elbow and right knee (fig. 4-3).

Figure 4-4.-Crawling silently.

The low crawl and high crawl are not suitable for moving silently. To crawl silently, you must move on your hands and knees (fig. 4-4): Start by laying your weapon carefully on the ground to your side. With your right hand, feel or make a clear spot for your knee. While keeping your hand on the spot, bring your right knee forward until it meets your hand. Next, clear a spot with your left hand and move your left knee up in the same reamer. Be sure your weapon is always within reach! To move your weapon, feel for a place, clear it, and lift the weapon into position. Crawl very slowly and keep your movements absolutely silent.

Onthefringe
HTML by deStihl

MOVING SILENTLY

The movements just explained, rushing and crawling, are not particularly useful when you are close to the enemy because they often create a shuffling noise. When extremely quiet movement is necessary, especially when you are on patrol or stalking an enemy, you must use the movements described below. These movements are particularly useful when you are moving at night. The movements must be made slowly; they are tiring and require extreme patience and self-control to be performed properly.

Figure 4-5.-Walking gently with your toe down first.

WALKING SILENTLY

While walking, hold your weapon at port arms. Make your footing sure and solid by keeping your weight on one foot as you step with the other. When stepping, raise your foot high. This enables you to clear the brush and grass. With your weight on the rear leg, gently let your foot down, toe first (fig. 4-5). Feel softly with your toe to pick a good, solid spot; then lower your foot. Shift your weight and balance to your foot that is forward and then continue. Take short steps to avoid losing your balance. At night and when moving through dense vegetation, you should avoid making unnecessary noise by holding your weapon with one hand and extending your other hand forward to feel for obstructions as you move.

ASSUMING THE PRONE POSITION SILENTLY

To assume the prone position silently (fig. 4-6), hold your weapon under one arm and crouch slowly. Feel for the ground with one hand, making sure it is clear by removing small twigs and other objects that make noise. Lower your knees one at a time until your weight is on both knees and your free hand. Shift your weight to your free hand and opposite knee. Raise your free leg up and back slowly; then lower it to the ground gently, feeling with your toe for a clear spot. Roll gently to that side and move your other leg into position in the same way. Roll quietly into the prone position.

Figure 4-6.-Assuming the prone position silently.

Onthefringe
HTML by deStihl

COMBAT FORMATIONS

Combat formations are designed to group individuals into effective fighting teams that can move to and assault an enemy position with minimum confusion. The use of combat formations, with related arm-and-hand signals (as shown in chapter 8), enables a squad leader to control the fire and to maneuver his unit just as the quarterback of a football team uses plays and signals. A person who cannot remember the plays or signals on the ball field endangers the ability of the team to win the game. On the battlefield, the stakes are much higher. The success of your mission, as well as your survival, depends on teamwork.

When the situation, terrain, or enemy activity does not permit close formations, the unit leader should deploy his men in an extended formation. Deployment is executed on signals or commands. The leader may deploy his units in a variety of formations at any one time, depending on the situation. Relative positions within these formations are flexible, and the leader should take advantage of the cover and concealment offered by the terrain; however, he must take care not to mask the fire of another unit. Maintaining exact distances between individuals and units is unnecessary as long as control is not lost; however, under ideal conditions, the recommended space between individuals is 5 yards. All leaders and units must maintain sight and voice contact with each other. Any changes information should be by the shortest practical route. Leaders must take full advantage of cover and concealment and avoid backward or lateral movement.

FIRE TEAM MOVEMENT

The FIRE TEAM LEADER controls the use of the formations. He places himself in a position where he can best observe and control the fire team and, in addition, receive orders from the squad leader. The fire team leader must also be in a position to quickly and effectively control the employment of the automatic rifle.

The AUTOMATIC RIFLEMAN is an interior man. He should position himself between the fire team leader and rifleman No. 1. Here, he can quickly deliver fire to either flank, as directed by the fire team leader, and receive help and protection from the adjacent rifleman. RIFLEMAN NO. 1 assists the automatic rifleman by supplying him with loaded magazines and by keeping the automatic rifle in action. He coordinates both his position and movement with those of the automatic rifleman.

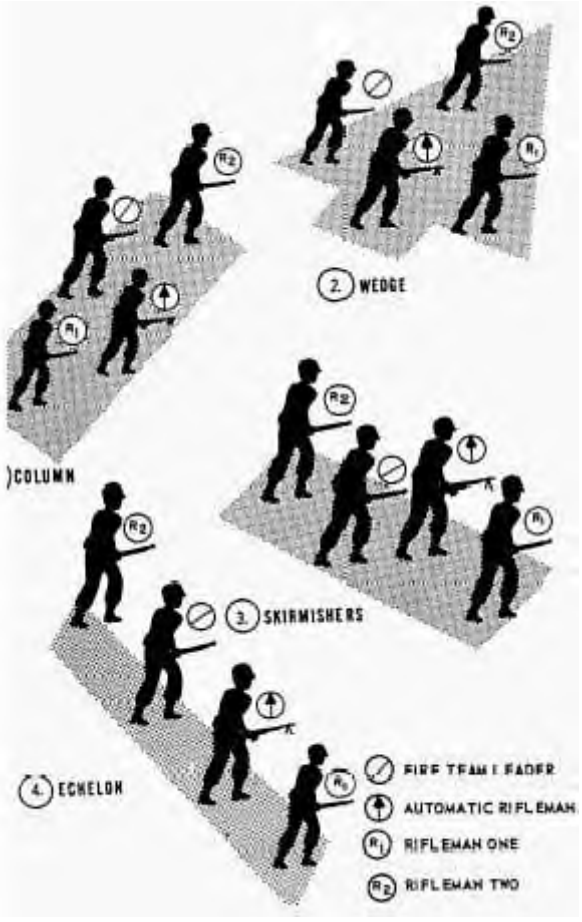


Figure 4-7.-Basic formations, fire team.

RIFLEMAN NO. 2 is at the place in the fire team formation that enemy action or probable enemy action threatens. He acts as a security element; for example, when the team is moving toward the enemy, he is in the foremost position.

The basic fire team formations are COLUMN, WEDGE, SKIRMISHERS RIGHT or LEFT, and ECHELON RIGHT or LEFT.

Onthefringe
HTML by deStihl

FIRE TEAM COLUMN

The fire team column formation (fig. 4-7, view 1) is used when speed and control are governing factors, such as moving through woods, fog, smoke, and along roads and trails. This formation is favorable for fire and maneuvers to either flank but is vulnerable to fire from the front because its own fire in that direction is limited.

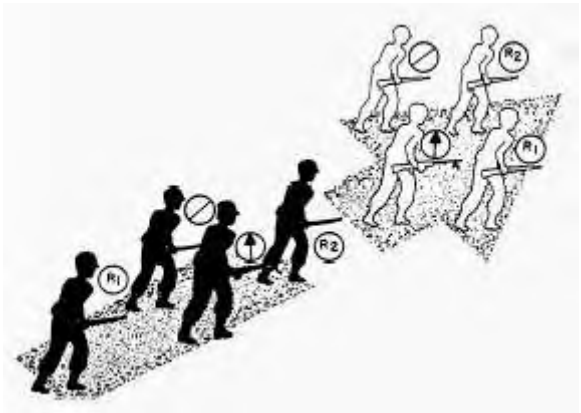


Figure 4-8.-Column to wedge.

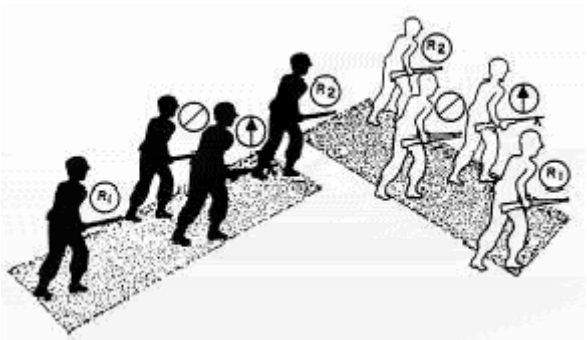
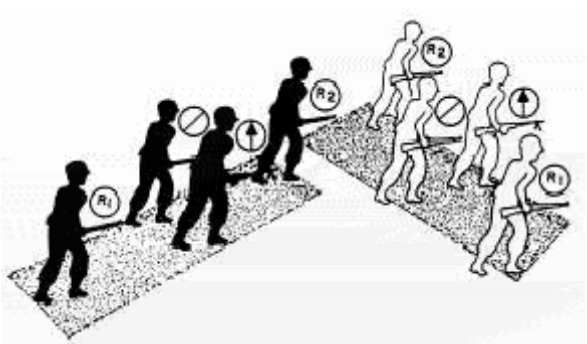


Figure 4-9.-Column to skirmishers right.



FIRE TEAM WEDGE

The fire team wedge formation (fig. 4-7, view 2) is used when the enemy situation is unknown but contact is possible. When the terrain and the visibility require dispersion of the men, the wedge formation provides all-around protection and flexibility and is easy to control.

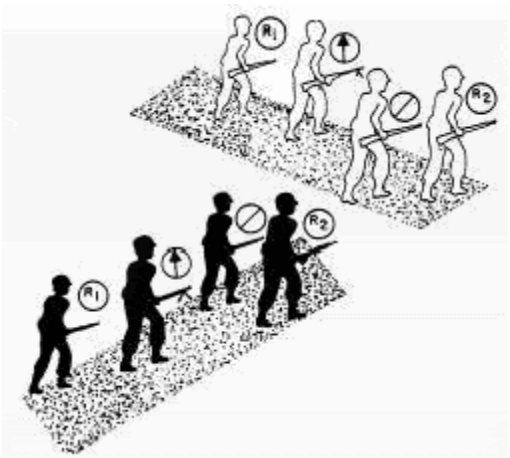


Figure 4-11-Column to echelon left.

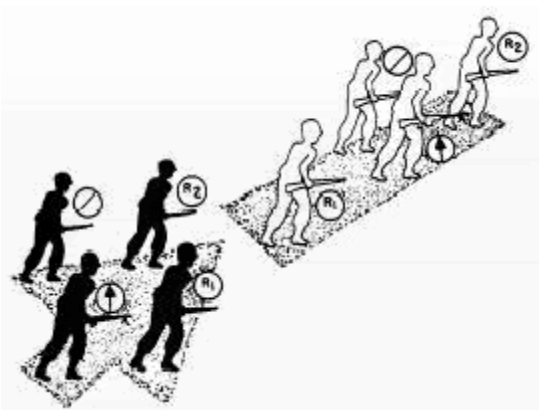


Figure 4-12.-Wedge to column.

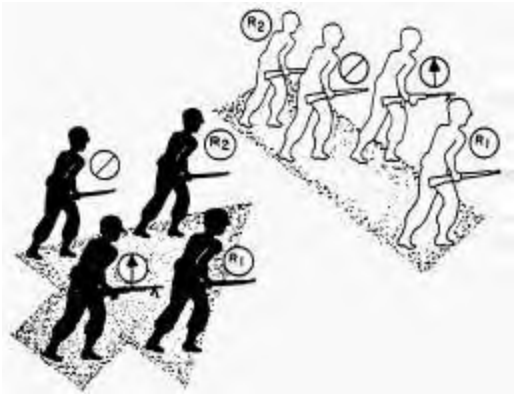


Figure 4-13.-Wedge to skirmishers right.

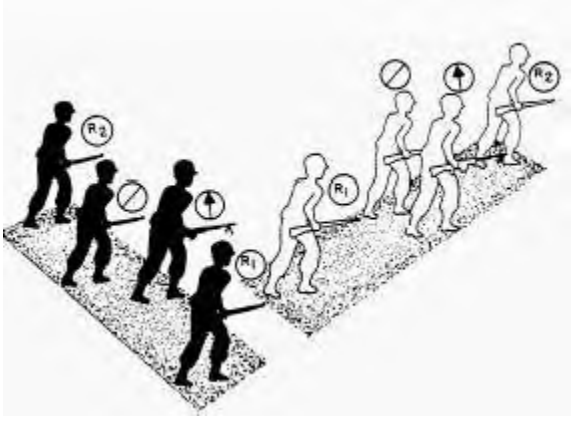


Figure 4-14.-Skirmishers right to column.

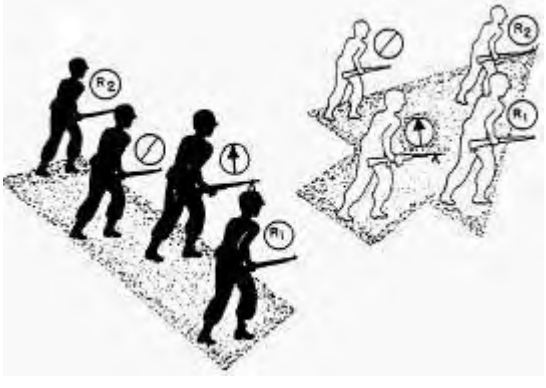


Figure 4-15.-Skirmishers right to wedge.

FIRE TEAM SKIRMISHERS RIGHT OR LEFT

Fire team skirmishers right or left (fig. 4-7, view 3) can be used most effectively when you are assaulting a known enemy position. It is also useful for "mopping up" operations (searching for enemy stragglers) and crossing short, open areas. Because the fire team is in a line, skirmishers right or left provides maximum firepower to the front. However, the formation is difficult to control.

FIRE TEAM ECHELON RIGHT OR LEFT

Fire team echelon right or left (fig. 4-7, view 4) is used primarily to protect an exposed flank. This formation permits heavy firepower to both the front and the direction of echelon. As with skirmishers, the formation is difficult to control; therefore, movement is generally slow, especially during conditions of reduced visibility.

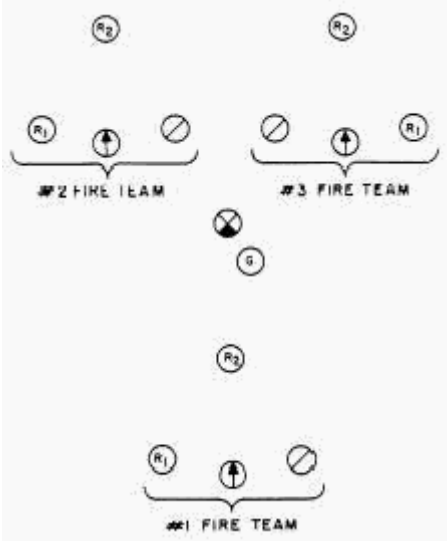


Figure 4-16.-Squad vee, fire teams in wedge.

CHANGING FIRE TEAM FORMATIONS

Depending upon the changing terrain features or the tactical situation, the fire team leader should change formations to meet these new conditions. Figures 4-8 through 4-15 show the manner in which each individual moves when changing from one formation to another.

RIFLE SQUAD FORMATIONS

The squad formations are similar to those of the fire team. However, an additional formation known as the SQUAD VEE is used by the squad, and skirmishers right or left is called SQUAD LINE.

The SQUAD LEADER designates the type of formation to be used, and he places himself in a location where he can readily observe his fire teams and the enemy. Normally, the fire team formation within the squad formation is left to the discretion of the fire team leader. For example, the squad may be in SQUAD VEE, but the fire team(s) may be in the fire team wedge

(fig. 4-16). The exact formation is flexible at any level and is influenced by the terrain and the circumstances. The grenadier always remains close to the squad leader regardless of the formation. His exact location in any formation depends upon the orders of his squad leader.

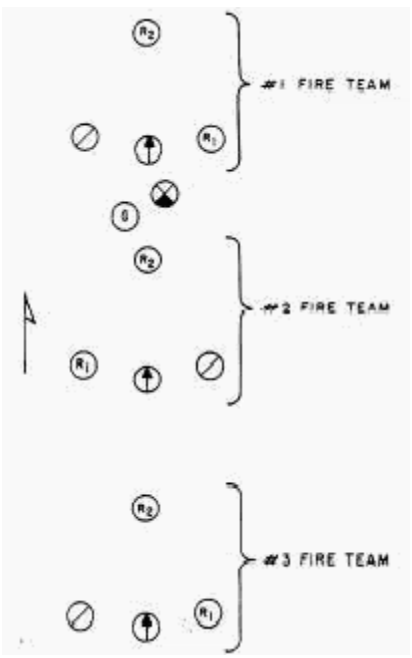


Figure 4-17.-Squad column, fire teams in wedge.

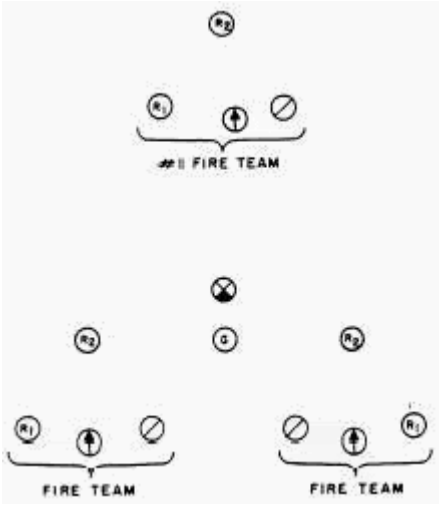


Figure 4-18.-Squad wedge, fire teams in wedge.

Squad Column

In SQUAD COLUMN (fig. 4- 17), the fire teams are arranged in succession, one behind the other. This formation is vulnerable to fire from the front, but controlling and maneuvering are easy. It is especially suitable for wow, covered routes of advance; for maneuvering through gaps between areas receiving hostile artillery fire; for maneuvering through woods; and for moving in fog, smoke, or darkness.

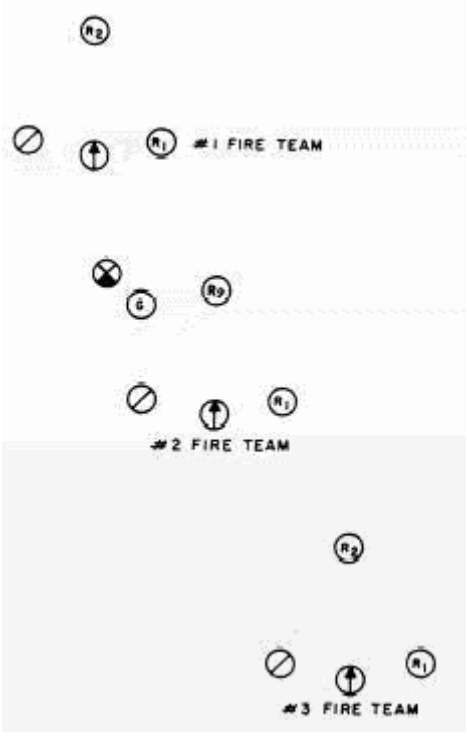


Figure 4-19.-Squad echelon right or left, fire teams in wedge.

Figure 4-20.-Squad line, fire teams in wedge.

Onthefringe
HTML by deStihl

Squad Wedge and Squad Vee

The squad wedge (fig. 4-1 8) and squad vee (fig. 4-16) formations provide good security to both the front and the flanks. These formations are relatively easy to maneuver and control and can be quickly adapted to meet new tactical situations. The nature of the terrain generally determines which of the two formations should be used, the amount of frontage to cover, and the proximity and actions of the enemy.

Squad Echelon Right or Left

In squad echelon right or left, the fire teams are placed diagonally, one behind the other (fig. 4-19). This formation is used to protect an exposed flank, particularly when the enemy is known to be on that flank. From this formation, maximum firepower can be promptly delivered to the right or left flank or toward the right or left front.

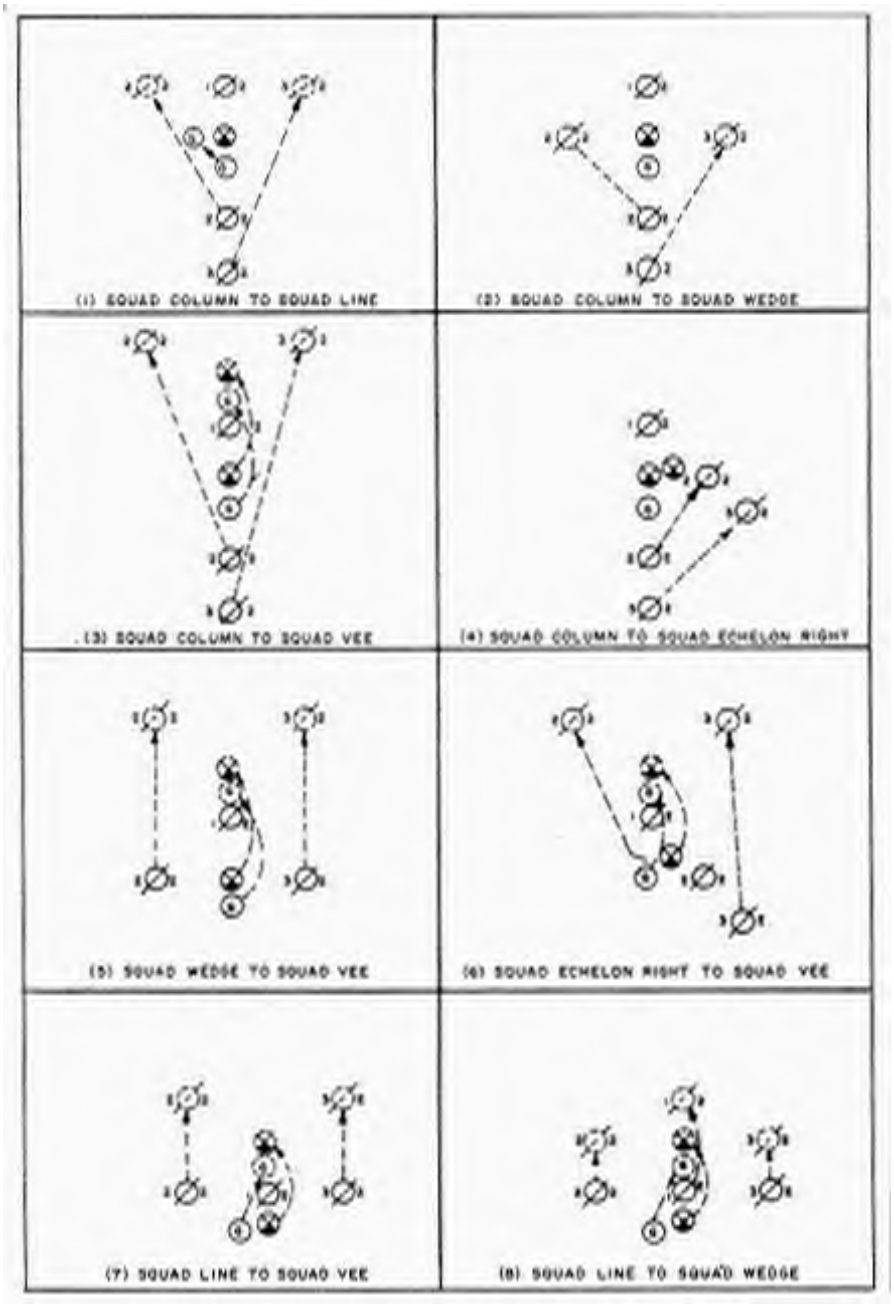

(1) SQUAD COLUMN TO SQUAD LINE
(2) SQUAD COLUMN TO SQUAD WEDGE
(3) SQUAD COLUMN TO SQUAD VEE
(4) SQUAD COLUMN TO SQUAD ECHELON RIGHT
(5) SQUAD WEDGE TO SQUAD VEE
(6) SQUAD ECHELON RIGHT TO SQUAD VEE
(7) SQUAD LINE TO SQUAD VEE
(8) SQUAD LINE TO SQUAD WEDGE

Figure 4-21.-Change squad formations.

Squad Line

The squad line, as the name implies, places all three fire teams abreast of one another on a line (fig. 4-20). This permits maximum firepower to the front in the shortest time, so the squad line is used extensively during an assault on a known enemy position. The squad line is suitable for rapidly crossing an unavoidable open area covered by enemy machine guns or artillery.

PATROL FORMATIONS

A particular patrol formation. should provide for all-around security and good control. The formation chosen should be such that only a minimum number of men within the patrol are likely to be pinned down at any one time by surprise fire.

Patrol formations must be fluid and flexible. They must be changed to meet varying terrain and visibility conditions. The patrol leader designates the original formation. Individual members then maintain assigned positions as long as they can see each other and, at the same time, make full use of available cover and concealment.

Patrols use basic combat formations. For small patrols in open terrain, the wedge is a suitable formation. For larger patrols or when visibility becomes restricted, the column formation, with its necessary security elements, should be used.

When enemy contact is near or has already been made, patrol leaders should adopt more deployed formations.

Normally, the following factors influence and change a patrol formation:

- Mission
- Terrain
- Visibility
- Enemy situation
- Size of patrol
- Required speed of movement

The formations taken by a patrol are ALWAYS influenced by the need for maintaining .

1. security,
2. the mission, and
3. the route of the patrol.

CONTROL

The patrol leader places himself where he can best maintain control. Normally, this is at, or near, the head of the patrol but depends somewhat upon the patrol route. When the route is clearly defined, the leader should take a position within the patrol wherever his signals can best be seen by patrol members. If the route is ill-defined as in dense woods, jungle, or at night, the leader must be in, or with, the leading group.

The second in command, the assistant patrol leader, assists the patrol leader in controlling the patrol. He helps the patrol leader by controlling the rear of the patrol and by preventing men from falling behind or getting out of position. He is continually alert for signals or orders and watches to seethe other members receive those orders or signals. He observes the rear to prevent the patrol from attack from that direction. He is ready to assume command of the patrol if the leader becomes a casualty.

Patrols are controlled in the daytime by arm-and-hand signals and oral orders. Each member of a patrol must be thoroughly familiar with the standard arm-and-hand signals. These signals are discussed in chapter 11. Before contact with the enemy has been made, the patrol leader must issue his orders. Oral orders are a sure means of control. Commands should be just loud enough to be heard by patrol members. When near the enemy, you should halt the patrol before issuing orders. The leader moves from man to man and quietly provides instructions. Sound signals may be used if they will not be confused with other noises. When a sound signal is to be used, the patrol leader should rehearse it before beginning the patrol. Control by voice is usually better than by other sound signals.

Though darkness helps a patrol move close the enemy without being detected, it increases the problem of control. To overcome this, each man is required to keep in sight of the man to his front and flank This procedure ensures everyone is in position to receive signals and orders.

Onthefringe
HTML by deStihl

SECURITY

All-around security must be maintained at all times. This is done within a patrol by using formations that provide protection to the front, flanks, and rear. These elements are the eyes, ears, and fingers of the patrol leader. The patrol moves by following his signals. They must maintain contact with him at all times, except when a bush or small terrain feature briefly gets in the way. To maintain contact with the patrol leader, security elements must glance in his direction every few steps.

Point and Scouts

Small patrols may use only one man or as many as afire team as the point. The size depends on the enemy situation, terrain, and patrol route. Normally, a squad-size patrol uses two riflemen as scouts; however, should the patrol come into a dangerous area or close to the enemy, the leader might increase the number in the point. The leader may use an entire fire team to cover the advance of the patrol.

The automatic rifleman moves slightly behind the rest of the fire team. From this position, he can cover the movements of the scouting element. The size of the point increases in relation to the size of the patrol. The point is responsible for investigating the route of advance immediately to the front of the patrol. When visibility is good, it may precede the main body by as much as 100 yards. The point must always maintain visual contact with the patrol leader.

Flanks

One man on each side may provide flank security for a patrol the size of a squad, or less. The flanks move as directed by the patrol leader. In special instances, two-man groups may be necessary. Such a group keeps one man where he can seethe patrol leader at all times. He remains within 100 yards of the leader. The man farther out remains in sight of the inside man, normally within 20 to 25 yards.

In open terrain, the flankers should investigate cover within 100 yards of the general route of march of the patrol. Flankers may become impractical because of reduced visibility in dense woods or jungle. Then the men normally assigned to flank protection move with the patrol itself. They maintain close observation to their assigned flank.

Rear Point

A small patrol normally has only one rifleman assigned as rear point. He remains in sight and within about 50 yards of the last man of the patrol. This rifleman maintains rear security for the patrol by constantly observing to the rear. If the patrol is ambushed, he stays out of the fire fight. If the patrol is annihilated or obviously will be, he is the getaway man and returns to friendly lines to report the situation.

The rear point varies in size, depending on the enemy situation and the size of the patrol. Usually, keeping a sharp lookout to the rear to prevent a surprise enemy attack from that direction is necessary.

Action at Patrol Objectives

On a reconnaissance patrol, the patrol leader halts and conceals the patrol near the objectives; the place where he does this is usually the objective rallying point. He conducts a leader's reconnaissance to pinpoint the objective, then returns to the patrol and positions security teams according to the plan. He places these teams where they can best provide early warning of enemy approach and best cover the reconnaissance element. Then he reconnoiters the objective.

The patrol leader may be able to get the required information quickly and simply. Usually, the patrol leader must move to several positions, perhaps making a circle around the objective. In the event he must do this, the patrol leader instructs his assistant patrol leader to continue the mission if he does not return within a reasonable time. When reconnaissance is complete, the patrol leader assembles the patrol at the objective rallying point and tells everyone what he saw and heard. He has each man contribute anything significant that may have been seen or heard. He makes a preliminary report by radio whenever possible; then he returns to the unit as quickly as possible to make a full report.

AMBUSH

An ambush is a surprise attack from a concealed position upon a moving or temporarily halted target. The ambush is one of the oldest and most effective military operations. Ambush may include assault to close with, and decisively engage, the target or the attack maybe by fire only. Ambush is highly effective in conventional operations but is even more suitable and effective in guerrilla and counterguerrilla operations.

Ambush is a favorite tactic of guerrilla forces because it does not require that ground be seized and held. Also, it enables small forces with limited weapons and equipment to harass or destroy larger, better armed forces. An ambush is an effective counterguerrilla measure because it forces the guerrillas to engage in decisive combat at unfavorable times and places. An ambush denies the guerrillas the freedom of movement on which their success so greatly depends. It also derives the guenillas of weapons, ammunition, and equipment that is difficult to replace; and the death or capture of "hard core" personnel greatly weakens the guerrilla force.

Ambushes are executed for the general purpose of reducing the overall combat effectiveness of the enemy and for the specific purposes of destruction and harassment. Destruction is the primary purpose because the loss of men killed or captured and the loss of equipment and supplies destroyed or captured critically affects the enemy. The capture of equipment and supplies may assist our forces. Harassment is a secondary purpose. Though less apparent than physical damage, it is very important. Frequent ambushes force the enemy to divert men from other missions to guard convoys, troop movements, and carrying parties. When patrols fail to accomplish their missions because they have been ambushed, the enemy is deprived of the valuable contributions these patrols would make to the combat effort. A series of successful ambushes causes the enemy to be less aggressive and more defensive. They become apprehensive, overly cautious, reluctant to go on patrols, to move in convoys, or to move in small groups. After being ambushed, the enemy seeks to avoid night operations, are more subject to confusion and panic, and generally decline in effectiveness.

The two main types of ambush are point ambush and area ambush. A **POINT AMBUSH** is one where forces are deployed to support the attack of a single killing zone. An **AREA AMBUSH** is one where forces are deployed for multiple, related point ambushes. In a deliberate ambush (an ambush planned as a specific action against a specific target), detailed information about the target is required: the size, nature, organization, armament, equipment, route of movement, and the times the

target will reach or pass certain points on its route. There are two situations where deliberate ambushes should be planned. The first situation is when you receive reliable information on intended movement of a specific force; the second is when patrols, convoys, carrying parties, or similar forces establish patterns of size, time, and movement sufficient to permit detailed planning for this ambush. The ambush of a target of opportunity is often the action of a search and attack patrol. When available information does not permit the detailed planning required for deliberate ambush, an ambush of opportunist y is planned. Then the ambush force plans and appeals. A search and attack patrol, before departing, plans and rehearses the ambush of the types of targets that may be encountered. This force establishes and executes ambushes as targets of opportunity arise.

Onthefringe
HTML by deStihl

FUNDAMENTALS OF SUCCESSFUL AMBUSH

Surprise, coordinated fire, and control are the basic elements essential to a successful ambush. Surprise must be achieved or the attack is not an ambush; surprise distinguishes ambush from other forms of attack Also, surprise allows the ambush force to seize and retain control of the situation. When complete surprise cannot be achieved, it must be so nearly complete that the target is not aware of the ambush until too late for effective reaction. Surprise is achieved by careful planning, thorough preparation, and exact execution. Only through detailed planning and thorough preparation can you make a sound decision on when, where, and what type of targets you should or should **NOT** attack and how you will attack so the enemy is **LEAST** prepared.

All weapons, including mines and demolitions, must be positioned. All firepower, including that of available artillery and mortars, must be coordinated to achieve the isolation of the killing zone to prevent escape or reinforcement. An ambush must also achieve the surprise delivery of a large volume of highly concentrated fire into the killing zone. The fire must inflict maximum damage so, when desired you can speedily assault and completely destroy the target. Close control must be maintained during movement to, occupation of, and withdrawal from the ambush site. The ambush commander must effectively control all elements of the ambush force. Control is most critical at the time of approach of the target. Control measures must provide for the following:

1. Early warning of target approach
2. Withholding of fire until the target has moved into the killing zone
3. Opening fire at the proper time
4. Initiation of the right actions if the ambush is prematurely detected
5. Lifting or shifting of supporting fires when the attack includes assault of the target
6. Timely and orderly withdrawal of the ambush force to an easily recognizable rally point

The men of the ambush force must maintain maximum control themselves so they do not compromise the ambush. They must use patience and self-discipline by remaining still and quiet while waiting for the target to appear. They may have to endure insect bites, to thirst in silence, to resist the desire to sleep, to ease cramped muscles, and to perform normal body functions. When the target approaches, the men must resist the temptation to open fire before the signal is given.

POINT AMBUSH

A point ambush can be used independently or as part of an area ambush. In a point ambush, the attack force is positioned along the target's expected route of approach. The formation is an important consideration because it determines whether a point ambush is able to deliver the heavy volume of highly concentrated fire necessary to isolate, trap, and destroy the target.

The formation is determined by careful consideration of possible formations and the advantages and disadvantages of each in relation to the following:

1. The terrain, conditions of visibility, forces, weapons, and equipment
2. The ease of difficulty of control, and the target to be attacked
3. The overall combat situation

In this training manual, a few formations that have been developed for the deployment of point

ambushes are discussed. Those discussed are identified by giving them names that correspond to the general pattern formed on the ground by the deployment of the attack force.

Line

The attack force is deployed generally parallel to the target's route of movement (road, trail, stream, etc.) This positions the attack force parallel to the long axis of the killing zone and subjects the target to heavy flanking fire. The area that the attack force can effectively cover with a heavy volume of highly concentrated fire limits the size of the killing zone that can trap the target. The target is trapped in the killing zone by natural obstacles, mines (Claymore, antivehicular, and antipersonnel), demolitions, and direct and indirect fire. A disadvantage of the line formation is the chance that lateral dispersion of the target may be too great for effective coverage. The line formation is appropriate in close terrain that restricts target maneuvers and in open terrain where one flank is restricted by natural obstacles or can be restricted by mines, demolitions, man-traps, or stakes. Similar obstacles can be placed between the attack force and the killing zone to provide protection from the target's counterambush measures. When a destruction ambush is deployed in this reamer, access lines are left so the target can be assaulted. An advantage of the line formation is its relative ease of control under all conditions of visibility.

The L

The L-shaped formation is a variation of the line formation. The long side of the attack force **is** parallel to the killing zone and delivers flanking fire. The short side of the attack force is at the end of, and at right angles to, the killing zone and delivers enfilading fire that interlocks with fire from the other leg. This formation is very flexible. You can establish it on a straight stretch of a trail, stream, or at a sharp bend in a trail or stream. When appropriate, fire from the short leg can be shifted to parallel the long leg if the target attempts to assault or escape in the opposite direction. In addition, the short leg prevents escape in its direction and reinforcement from its direction

The Z

The Z-shaped formation is another variation of the line formation. The attack force is deployed as in the L formation, but with an additional side so the formation resembles the letter Z. The additional side may serve any of the following purposes:

1. To engage a force attempting to relieve or reinforce the target
2. To seal the end of the killing zone
3. To restrict a flank
4. To prevent envelopment

The T

In the T-shaped formation, the attack force is deployed across and at right angles to the target's route of movement so the attack force and the target form the letter *T.* This formation can be used day or night to establish a purely harassing ambush and, at night, to establish an ambush to stop or hamper enemy movement through open, hard-to-seal areas, such as rice paddies. A small force can use the T formation to harass, slow, and disorganize a larger force. When the lead elements of the target are engaged, they normally attempt to maneuver right or left to close the ambush. Mines, man-traps, and other obstacles placed to the flanks of the killing zone slow the movements of the enemy. They also permit the ambush force to deliver heavy fire and withdraw without becoming decisively engaged. An ambush established and executed in this manner is called a "bloody nose" ambush.

The T formation can be used to stop or hamper small groups attempting night movement across open areas; for example, you can deploy the attack force along a rice-paddy dike with every second man facing in the opposite direction The attack of a target approaching from either direction requires only that every second man shift to the opposite side of the dike. Each man fires only to his front and only when the target is at very close range. Attack is by fire only and each man keeps the target under fire

as long as it remains on his front. When the target attempts to escape in either direction along the dike, each man takes it under fire as it comes to his vicinity. The T formation is very effective at halting infiltration. But it has one chief disadvantage-there is a possibility that the ambush will engage a superior force at night while spread out; therefore, use of this formation must fit the local enemy situation.

The V

Deploy the V-shaped attack force along both sides of the target's route of movement so it forms the letter *V.* Care is taken to ensure that neither group nor leg fires into the other. This formation subjects the target to both enfilading and interlocking fire. The V formation is best suited for fairly open terrain but can also be used in the jungle. When established in the jungle, the legs of the V close in as the head elements of the target approach the apex of the V and open fire from close range. Here, even more than in open terrain, all movement and fire must be carefully coordinated and controlled to ensure that the fire of one leg does not endanger the other. The wider separation of forces makes this formation difficult to control, and there are fewer sites that favor its use. The main advantage of the V formation is the target has difficulty detecting the ambush until the ambush force is well into the killing zone.

Onthefringe
HTML by deStihl